

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, 2025

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: 001-36481

ASPEN AEROGELS, INC.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

30 Forbes Road, Building B
Northborough, Massachusetts
(Address of principal executive offices)

04-3559972
(I.R.S. Employer
Identification No.)

01532
(Zip Code)

Registrant's telephone number, including area code: (508) 691-1111

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

Title of each class	Trading Symbol	Name of exchange on which registered
Common Stock, par value \$0.00001 per share	ASPN	The New York Stock Exchange

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

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

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

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

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

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

As of August 5, 2025, the registrant had 82,360,491 shares of common stock outstanding.

ASPEN AEROGELS, INC.

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Trademarks, Trade Names and Service Marks

We own or have rights to use “Aspen Aerogels,” “Cryogel,” “Pyrogel,” “Spaceloft,” “PyroThin,” the Aspen Aerogels logo and other trademarks, service marks and trade names of Aspen Aerogels, Inc. appearing in this Quarterly Report on Form 10-Q. Solely for convenience, the trademarks, service marks and trade names referred to in this report are presented without the ® and TM symbols, but such references are not intended to indicate, in any way, that the owner thereof will not assert, to the fullest extent under applicable law, such owner’s rights to these trademarks, service marks and trade names. This report contains additional trademarks, service marks and trade names of other companies, which, to our knowledge, are the property of their respective owners.

PART I — FINANCIAL INFORMATION

Item 1. Financial Statements.

ASPEN AEROGELS, INC.
Consolidated Balance Sheets
(Unaudited)

	June 30, 2025	December 31, 2024
	(In thousands, except share and per share data)	
Assets		
Current assets:		
Cash and cash equivalents	\$ 167,622	\$ 220,882
Restricted cash	410	394
Accounts receivable, net of allowances of \$1,150 and \$1,265	76,167	109,104
Inventories	52,115	47,551
Prepaid expenses and other current assets	14,153	31,517
Total current assets	310,467	409,448
Property, plant and equipment, net	156,271	459,276
Assets held for sale	26,500	—
Operating lease right-of-use assets	18,318	20,854
Finance lease right-of-use assets	5,627	—
Other long-term assets	7,949	5,566
Total assets	\$ 525,132	\$ 895,144
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable	\$ 27,004	\$ 44,361
Accrued expenses	15,564	36,495
Deferred revenue	624	2,199
Finance obligation for sale and leaseback transactions	4,094	4,028
Operating lease liabilities	3,315	3,279
Finance lease liabilities	1,445	—
Long term debt - current portion	26,000	19,750
Total current liabilities	78,046	110,112
Revolving line of credit	28,989	42,131
Long term debt	77,265	94,961
Finance obligation for sale and leaseback transactions long-term	7,266	10,087
Operating lease liabilities long-term	21,494	23,148
Finance lease liabilities long-term	3,304	—
Total liabilities	216,364	280,439
Commitments and contingencies (Note 10)		
Stockholders' equity:		
Preferred stock, \$0.00001 par value per share; 5,000,000 shares authorized, no shares issued and outstanding at June 30, 2025 and December 31, 2024	—	—
Common stock, \$0.00001 par value per share; 250,000,000 shares authorized, 82,253,282 and 82,040,468 shares issued and outstanding at June 30, 2025 and December 31, 2024, respectively	—	—
Additional paid-in capital	1,279,300	1,274,932
Accumulated deficit	(970,532)	(660,227)
Total stockholders' equity	308,768	614,705
Total liabilities and stockholders' equity	\$ 525,132	\$ 895,144

See accompanying notes to unaudited consolidated financial statements.

ASPEN AEROGELS, INC.
Consolidated Statements of Operations
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
	(In thousands, except share and per share data)			
Revenue	\$ 78,024	\$ 117,770	\$ 156,747	\$ 212,271
Cost of revenue	52,708	66,192	108,619	125,550
Gross profit	25,316	51,578	48,128	86,721
Operating expenses:				
Research and development	3,794	4,565	8,127	9,054
Sales and marketing	6,948	9,521	15,332	17,824
General and administrative	13,836	17,506	26,870	34,719
Restructuring and demobilization costs	4,938	—	14,728	—
Impairment of property, plant and equipment	955	—	287,567	2,702
Total operating expenses	30,471	31,592	352,624	64,299
Income (loss) from operations	(5,155)	19,986	(304,496)	22,422
Other income (expense)				
Interest expense, convertible note - related party	—	(3,043)	—	(6,081)
Interest income (expense)	(3,080)	741	(5,042)	264
Other income	—	—	1,130	—
Total other expense	(3,080)	(2,302)	(3,912)	(5,817)
Income (loss) before income tax expense	(8,235)	17,684	(308,408)	16,605
Income tax expense	(821)	(866)	(1,897)	(1,622)
Net income (loss)	<u>\$ (9,056)</u>	<u>\$ 16,818</u>	<u>\$ (310,305)</u>	<u>\$ 14,983</u>
Net income (loss) per share:				
Basic	<u>\$ (0.11)</u>	<u>\$ 0.22</u>	<u>\$ (3.78)</u>	<u>\$ 0.20</u>
Diluted	<u>\$ (0.11)</u>	<u>\$ 0.21</u>	<u>\$ (3.78)</u>	<u>\$ 0.19</u>
Weighted-average common shares outstanding:				
Basic	<u>82,179,136</u>	<u>76,336,811</u>	<u>82,122,719</u>	<u>76,049,852</u>
Diluted	<u>82,179,136</u>	<u>78,981,383</u>	<u>82,122,719</u>	<u>78,749,199</u>

See accompanying notes to unaudited consolidated financial statements.

ASPEN AEROGELS, INC.
Consolidated Statements of Stockholders' Equity
(Unaudited)
(In thousands, except share data)

	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Value	Shares	Value			
Balance at December 31, 2024	—	\$ —	82,040,468	\$ —	\$ 1,274,932	\$ (660,227)	\$ 614,705
Net loss	—	—	—	—	—	(301,249)	(301,249)
Stock-based compensation expense	—	—	—	—	1,952	—	1,952
Vesting of restricted stock units	—	—	133,890	—	(556)	—	(556)
Issuance costs from offering of common stock	—	—	—	—	(18)	—	(18)
Balance at March 31, 2025	—	\$ —	82,174,358	\$ —	\$ 1,276,310	\$ (961,476)	\$ 314,834
Net loss	—	—	—	—	—	(9,056)	(9,056)
Stock-based compensation expense	—	—	—	—	2,815	—	2,815
Vesting of restricted stock units	—	—	15,151	—	(46)	—	(46)
Proceeds from employee stock option exercises	—	—	63,773	—	231	—	231
Issuance costs from offering of common stock	—	—	—	—	(10)	—	(10)
Balance at June 30, 2025	—	\$ —	82,253,282	\$ —	\$ 1,279,300	\$ (970,532)	\$ 308,768

	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Value	Shares	Value			
Balance at December 31, 2023	—	\$ —	76,503,151	\$ —	\$ 1,161,657	\$ (673,602)	\$ 488,055
Net loss	—	—	—	—	—	(1,835)	(1,835)
Stock-based compensation expense	—	—	—	—	2,532	—	2,532
Issuance costs from private placement of common stock	—	—	—	—	(28)	—	(28)
Vesting of restricted stock units	—	—	118,289	—	(1,081)	—	(1,081)
Cancellation of restricted stock	—	—	(679,796)	—	2,174	—	2,174
Proceeds from employee stock option exercises	—	—	136,286	—	1,386	—	1,386
Balance at March 31, 2024	—	\$ —	76,077,930	\$ —	\$ 1,166,640	\$ (675,437)	\$ 491,203
Net income	—	—	—	—	—	16,818	16,818
Stock-based compensation expense	—	—	—	—	2,971	—	2,971
Issuance of restricted stock awards	—	—	11,388	—	—	—	—
Employee restricted stock awards withheld for tax	—	—	(75,885)	—	(1,810)	—	(1,810)
Vesting of restricted stock units	—	—	3,790	—	(53)	—	(53)
Proceeds from employee stock option exercises	—	—	1,063,816	—	8,698	—	8,698
Balance at June 30, 2024	—	\$ —	77,081,039	\$ —	\$ 1,176,446	\$ (658,619)	\$ 517,827

See accompanying notes to unaudited consolidated financial statements.

ASPEN AEROGELS, INC.
Consolidated Statements of Cash Flows
(Unaudited)

	Six Months Ended June 30,	
	2025	2024
	(In thousands)	
Cash flows from operating activities:		
Net loss	\$ (310,305)	\$ 14,983
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation	11,589	11,772
Accretion of interest on convertible note - related party	—	5,620
Amortization of debt issuance costs	1,612	19
Amortization of debt discount due to modification of convertible note – related party	—	443
Deferred financing costs written off	—	1,829
Provision for bad debt	32	140
Stock-based compensation expense	4,767	7,677
Impairment of property, plant and equipment	288,021	6,810
Reduction in the carrying amount of operating lease right-of-use assets	1,844	1,223
Changes in operating assets and liabilities:		
Accounts receivable	32,905	(47,073)
Inventories	(4,564)	(13,841)
Prepaid expenses and other assets	14,782	(12,806)
Accounts payable	(14,579)	17,514
Accrued expenses	(20,931)	(4,957)
Deferred revenue	(1,575)	779
Operating lease liabilities	(1,896)	(1,038)
Net cash provided by (used in) operating activities	1,702	(10,906)
Cash flows from investing activities:		
Capital expenditures	(25,883)	(50,690)
Net cash used in investing activities	(25,883)	(50,690)
Cash flows from financing activities:		
Proceeds from employee stock option exercises	231	10,084
Proceeds from sale and leaseback transactions	—	4,982
Repayment of lease and other finance obligations	(2,464)	(504)
Payments made for employee restricted stock tax withholdings	(602)	(1,134)
Repayment of revolving line of credit	(13,200)	—
Repayment of term loan	(13,000)	—
Fees and issuance costs from offering of common stock	(28)	(28)
Net cash provided by (used in) financing activities	(29,063)	13,400
Net decrease in cash, cash equivalents and restricted cash	(53,244)	(48,196)
Cash, cash equivalents and restricted cash at beginning of period	221,276	139,971
Cash, cash equivalents and restricted cash at end of period	\$ 168,032	\$ 91,775
Supplemental disclosures of cash flow information:		
Interest paid	\$ 6,563	\$ 23
Income taxes paid	\$ 3,300	\$ —
Supplemental disclosures of non-cash activities:		
Right-of-use assets obtained in exchange for new operating lease liabilities	\$ —	\$ 2,483
Changes in accrued capital expenditures	\$ (2,778)	\$ (11,362)

See accompanying notes to unaudited consolidated financial statements.

ASPEN AEROGELS, INC.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(UNAUDITED)

(1) Description of Business and Basis of Presentation

Nature of Business

Aspen Aerogels, Inc. (the Company) is an aerogel technology company that designs, develops and manufactures innovative, high-performance aerogel materials used primarily in the energy industrial, sustainable insulation materials and electric vehicle (EV) markets. The Company has provided high-performance aerogel insulation to the energy industrial and sustainable insulation markets for nearly two decades. The Company has developed and commercialized its proprietary line of PyroThin aerogel thermal barriers for use in battery packs in EVs. The Company's core business is organized into two reportable segments: Energy Industrial and Thermal Barrier.

The Company maintains its corporate offices in Northborough, Massachusetts. The Company has four wholly owned subsidiaries: Aspen Aerogels Rhode Island, LLC (Aspen RI), Aspen Aerogels Germany, GmbH, Aspen Aerogels Georgia, LLC (Aspen Georgia), and Aspen Aerogels Mexico Holdings, LLC (Aspen Mexico). Additionally, the Company engaged Prodensa Servicios de Consultora (Prodensa) to establish OPE Manufacturer Mexico S de RL de CV, a maquiladora located in Mexico (OPE), which assembles thermal barrier PyroThin products and operates an automated fabrication facility for PyroThin. OPE is currently owned by Prodensa, which charges a management fee. There is an option for OPE to be purchased by the Company after a period of 18 months. As of June 30, 2025, the Company had notified Prodensa of the intent to purchase OPE, and the purchase was completed on July 31, 2025. During the period between inception and the exercise of the purchase option, OPE operations are consolidated within the Company financial statements.

Liquidity

During the six months ended June 30, 2025, the Company incurred a net loss of \$310.3 million, generated \$1.7 million of cash in operations and used \$25.9 million of cash for capital expenditures. The Company had unrestricted cash and cash equivalents of \$167.6 million as of June 30, 2025.

In January 2024 and September 2024, the Company entered into sale and leaseback arrangements, pursuant to which the Company sold certain equipment to an equipment leasing company for one-time cash payments of \$5.0 million and \$10.0 million, respectively, and leased back such equipment from the leasing company. The associated monthly lease rents will be paid over the lease term of three years.

On August 19, 2024, the Company and Aspen RI (each, a Borrower and collectively, the Borrowers) entered into a Credit, Security and Guaranty Agreement (the Credit Agreement and the facilities provided thereunder, collectively, the MidCap Loan Facility) with MidCap Funding IV Trust, as agent (the Agent), MidCap Financial Trust, as term loan servicer, and the financial institutions or other entities from time to time party thereto as lenders (the Lenders), with respect to the MidCap Loan Facility, which is comprised of (i) the Term Loan Facility in an aggregate principal amount of \$125.0 million (the Term Loan Facility) and (ii) the Revolving Facility in an aggregate principal amount not to exceed the lesser of \$100.0 million and the value of the borrowing base (defined as the sum of (x) 85% of certain eligible accounts of the Borrowers and (y) the lesser of 85% of the NOLV (as defined in the Credit Agreement) or 85% of the cost of certain eligible inventory of the Borrowers (the Borrowing Base) (the Revolving Facility). At closing of the transactions contemplated by the Credit Agreement, the Company drew \$125.0 million from the Term Loan Facility and \$43.0 million from the Revolving Facility. The proceeds of the borrowings at closing, net of fees and costs, were used to repurchase the 2022 Convertible Note (as defined below) for \$150.0 million and for general corporate purposes. The amount available to the Company at June 30, 2025 under the Revolving Facility was \$16.7 million. On May 6, 2025, the Credit Agreement was amended to add Aspen Georgia as a Borrower and to amend the MidCap Loan Facility. See "Note 9. Debt" for further details.

The Company has developed a number of promising aerogel products and technologies for the EV market. The Company will continue to invest in research and development of next-generation aerogel products and manufacturing process technologies. The Company believes that the commercial potential for the Company's products and technology in the EV market is significant.

The Company expects its existing cash balance will be sufficient to support current operating requirements, current research and development activities and the capital expenditures required to support the evolving commercial opportunity in the EV market and

other strategic business initiatives. However, the Company may supplement its cash balance with equity financings, debt financings, equipment leasing, sale-leaseback transactions, customer prepayments, or government grant and loan programs to provide the additional capital necessary to purchase the capital equipment, construct the new facilities, establish the operations and complete the aerogel capacity expansions required to support these evolving commercial opportunities and strategic business initiatives.

Unaudited Interim Financial Information

The accompanying unaudited interim consolidated financial statements include the accounts of the Company and have been prepared in accordance with accounting principles generally accepted in the United States of America (U.S. GAAP) and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Certain information and disclosures normally included in the consolidated financial statements prepared in accordance with U.S. GAAP have been condensed or omitted pursuant to such rules and regulations. As such, the information included in this Quarterly Report on Form 10-Q should be read in conjunction with the audited consolidated financial statements and accompanying notes in our Annual Report on Form 10-K for the year ended December 31, 2024 (the Annual Report), filed with the U.S. Securities and Exchange Commission on February 27, 2025.

In the opinion of the Company's management, the unaudited interim consolidated financial statements have been prepared on the same basis as the audited consolidated financial statements and include all adjustments that are of a normal recurring nature and necessary for the fair statement of the Company's financial position as of June 30, 2025 and the results of its operations and stockholders' equity for the three and six months ended June 30, 2025 and 2024 and the cash flows for the six-month periods then ended. The Company has evaluated subsequent events through the date of this filing.

The Company's results of operations for the three and six months ended June 30, 2025 are not necessarily indicative of the results to be expected for the year ending December 31, 2025 or any other period.

(2) Significant Accounting Policies

Please refer to "Note 2. Summary of Basis of Presentation and Significant Accounting Policies," to the Company's consolidated financial statements from the Annual Report for the discussion of the Company's significant accounting policies.

Use of Estimates

The preparation of the consolidated financial statements requires the Company to make a number of estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include allowances for doubtful accounts, sales returns and allowances, product warranty costs, inventory valuation, the carrying amount of property and equipment, right-of-use assets, lease liabilities, stock-based compensation, and deferred income taxes. The Company evaluates its estimates and assumptions on an on-going basis using historical experience and other factors, including current economic conditions, which are believed to be reasonable under the circumstances. Management adjusts such estimates and assumptions when facts and circumstances warrant. Illiquid credit markets, volatile equity markets and declines in business investment can increase the uncertainty inherent in such estimates and assumptions. As future events and their effects cannot be determined with precision, actual results could differ significantly from these estimates. Changes in these estimates resulting from continuing changes in the economic environment will be reflected in the financial statements in future periods.

Restricted Cash

As of June 30, 2025, the Company had \$0.4 million of restricted cash to support its outstanding letters of credit.

Concentration of Credit Risk

Financial instruments, which potentially expose the Company to concentrations of credit risk, consist principally of accounts receivable. The Company's customers are primarily insulation distributors, insulation contractors, insulation fabricators and select energy and automotive end-users located throughout the world. The Company performs ongoing credit evaluations of its customers' financial condition and generally requires no collateral to secure accounts receivable. The Company maintains an allowance for doubtful accounts based on its assessment of the collectability of accounts receivable. The Company reviews the allowance for doubtful accounts quarterly. During the six months ended June 30, 2025, the Company recorded an increase for estimated customer

uncollectible accounts receivable of less than \$0.1 million. During the six months ended June 30, 2024, the Company recorded an increase for estimated customer uncollectible accounts receivable of \$0.1 million.

For the six months ended June 30, 2025 and 2024, two customers represented 72% and 71% of total revenue, respectively.

At June 30, 2025, the Company had one customer that accounted for 75% of accounts receivable. At December 31, 2024, the Company had two customers which accounted for 80% and 5% of accounts receivable, respectively.

Revenue Recognition

The Company recognizes revenue in accordance with Accounting Standards Codification 606, Revenue from Contracts with Customers (ASC 606). See "Note 3. Revenue from Contracts with Customers" for further details.

Recently Issued Accounting Standards

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board (FASB) or other standard setting bodies. Recently issued standards typically do not require adoption until a future effective date. Prior to their effective date, the Company evaluates the pronouncements to determine the potential effects of adoption to its consolidated financial statements.

Standards Implemented Since December 31, 2024

The Company has not implemented any accounting standards that had a material impact on its consolidated financial statements during the six months ended June 30, 2025.

Standards to be Implemented

In December 2023, the FASB issued ASU 2023-09 Income Taxes (Topic 740) Improvements to Income Tax Disclosures that requires disclosure of disaggregated income taxes paid, prescribes standard categories for the components of the effective tax rate reconciliation, and modifies other income tax-related disclosures. Topic 740 is effective for the Company's fiscal year 2025. The Company is currently evaluating income tax disclosures related to its annual report for fiscal year 2025.

Although there are several other new accounting pronouncements issued by the FASB, the Company does not believe any of these accounting pronouncements had or will have a material impact on its Consolidated Financial Statements.

The Company believes that the impact of recently issued accounting standards that are not yet effective will not have a material impact on its consolidated financial statements.

(3) Revenue from Contracts with Customers

Revenue Recognition

Revenue is recognized when a customer obtains control of promised goods or services in an amount that reflects the consideration that the entity expects to receive in exchange for those goods or services. To determine revenue recognition for arrangements within the scope of ASC 606, the Company performs the following five steps: (i) identification of the contract with a customer; (ii) identification of the performance obligations in the contract; (iii) determination of the transaction price; (iv) allocation of the transaction price to the separate performance obligations in the contract; and (v) recognition of the revenue associated with performance obligations as they are satisfied. The Company applies the five-step model to contracts when it is probable that the Company will collect the consideration it is entitled to in exchange for the goods or services it transfers to the customer. At contract inception, once the contract is determined to be within the scope of ASC 606, the Company assesses the goods or services promised within each contract and determines those that are performance obligations and assesses whether each promised good or service is distinct. If the contract contains a single performance obligation, the entire transaction price is allocated to the single performance obligation. Contracts that contain multiple performance obligations require an allocation of the transaction price based on the estimated relative standalone-selling prices of the promised products or services underlying each performance obligation. The Company determines standalone-selling prices based on the price at which the performance obligation is sold separately. If the

standalone-selling price is not observable through past transactions, the Company estimates the standalone-selling price considering available information such as market conditions and internally approved pricing guidelines related to the performance obligations. The Company then recognizes as revenue the amount of the transaction price that is allocated to the respective performance obligation when (or as) the performance obligation is satisfied.

When determining the transaction price of a contract, an adjustment is made if payment from a customer occurs either significantly before or significantly after performance, resulting in a significant financing component. Applying the practical expedient in paragraph ASC 606-10-32-18, the Company does not assess whether a significant financing component exists if the period between when the Company performs its obligations under the contract and when the customer pays is one year or less. The Company did not have any contracts outstanding at December 31, 2024 and did not enter into any contracts during the six months ended June 30, 2025 that contained a significant financing component.

The Company records deferred revenue for product sales when (i) the Company has delivered products, but other revenue recognition criteria have not been satisfied, or (ii) payments have been received in advance of the completion of required performance obligations.

Thermal Barriers

The Company supplies fabricated, multi-part thermal barriers for use in battery packs in the EV market. These thermal barriers are customized to meet customer specifications. Although thermal barrier products are customized with no alternative use to the Company, the Company does not always have an enforceable right to payment. Under the provisions of ASC 606, the Company recognizes revenue at a point in time when transfer of the control of the products is passed to the customer according to the terms of the contract, including under bill and hold arrangements. The timing of revenue recognition is assessed on a contract-by-contract basis.

Energy Industrial

The Company generally enters into contracts containing one type of performance obligation. For a majority of the contracts, the Company recognizes revenue at a point in time when transfer of control of the products is passed to the customer, which is generally upon delivery according to contractual shipping terms within customer purchase orders. For a limited number of customer arrangements for customized products with no alternative use to the Company and an enforceable right to payment for progress completed to date, the Company recognizes revenue over time using units of production to measure progress toward satisfying the performance obligations. Units of production represent work performed as the Company does not generate significant work in process and thereby best depicts the transfer of control to the customer. Customer invoicing terms for contracts for which revenue is recognized under the over time methodology are typically based on certain milestones within the production and delivery schedule. The timing of revenue recognition is assessed on a contract-by-contract basis.

The Company also enters into rebate agreements with certain customers. These agreements may be considered an additional performance obligation of the Company or variable consideration within a contract. Rebates are recorded as a reduction of revenue in the period the related revenue is recognized. A corresponding liability is recorded as a component of deferred revenue on the consolidated balance sheets. These arrangements are primarily based on the customer attaining contractually specified sales volumes.

The Company estimates the amount of its sales that may be returned by its customers and records this estimate as a reduction of revenue in the period the related revenue is recognized. The Company currently estimates return liabilities using historical rates of return, current quarter credit sales, and specific items of exposure on a contract-by-contract basis. Sales return reserves were approximately \$0.8 million and \$1.0 million as of June 30, 2025 and December 31, 2024, respectively.

Shipping and Handling Costs

Shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are accounted for as fulfillment costs and are included in the cost of product revenue. The associated amount of revenue recognized includes the consideration to which the Company expects to be entitled to receive in exchange for incurring these shipping and handling costs.

Disaggregation of Revenue

In the following tables, revenue is disaggregated by primary geographical region and source of revenue for the periods presented:

	Three Months Ended June 30,					
	2025			2024		
	U.S.	International	Total	U.S.	International	Total
	(In thousands)					
Geographical region						
Asia	\$ —	\$ 8,553	\$ 8,553	\$ —	\$ 6,419	\$ 6,419
Canada	—	1,194	1,194	—	3,606	3,606
Europe	—	4,047	4,047	—	9,110	9,110
Latin America	—	15,719	15,719	—	33,171	33,171
U.S.	48,511	—	48,511	65,464	—	65,464
Total revenue	\$ 48,511	\$ 29,513	\$ 78,024	\$ 65,464	\$ 52,306	\$ 117,770
Source of revenue						
Energy industrial	\$ 9,294	\$ 13,499	\$ 22,793	\$ 14,141	\$ 22,782	\$ 36,923
Thermal barrier	39,217	16,014	55,231	51,323	29,524	80,847
Total revenue	\$ 48,511	\$ 29,513	\$ 78,024	\$ 65,464	\$ 52,306	\$ 117,770

	Six Months Ended June 30,					
	2025			2024		
	U.S.	International	Total	U.S.	International	Total
	(In thousands)					
Geographical region						
Asia	\$ —	\$ 15,718	\$ 15,718	\$ —	\$ 13,632	\$ 13,632
Canada	—	2,005	2,005	—	5,474	5,474
Europe	—	8,802	8,802	—	18,471	18,471
Latin America	—	43,539	43,539	—	49,602	49,602
U.S.	86,683	—	86,683	125,092	—	125,092
Total revenue	\$ 86,683	\$ 70,064	\$ 156,747	\$ 125,092	\$ 87,179	\$ 212,271
Source of revenue						
Energy industrial	\$ 26,610	\$ 26,005	\$ 52,615	\$ 28,174	\$ 37,831	\$ 66,005
Thermal barrier	60,073	44,059	104,132	96,918	49,348	146,266
Total revenue	\$ 86,683	\$ 70,064	\$ 156,747	\$ 125,092	\$ 87,179	\$ 212,271

Contract Balances

The following table presents changes in the Company's contract liabilities during the six months ended June 30, 2025:

	Balance at December 31, 2024	Additions	Deductions	Balance at June 30, 2025
	(In thousands)			
Contract liabilities				
Deferred revenue				
Energy industrial	\$ 2,199	\$ 751	\$ (2,326)	\$ 624
Total contract liabilities	\$ 2,199	\$ 751	\$ (2,326)	\$ 624

During the six months ended June 30, 2025, the Company recognized \$2.2 million of revenue that was included in deferred revenue as of December 31, 2024.

A contract asset is recorded when the Company satisfies a performance obligation by transferring a promised good or service and has earned the right to consideration from its customer. These assets may represent a conditional right to consideration and are included within accounts receivable and other current assets on the consolidated balance sheets.

A contract liability is recorded when consideration is received, or such consideration is unconditionally due, from a customer prior to transferring goods or services under the terms of the contract. Contract liabilities are recognized as revenue after control of the products or services is transferred to the customer and all revenue recognition criteria have been met.

(4) Inventories

Inventories consist of the following:

	June 30, 2025	December 31, 2024
	(In thousands)	
Raw materials	\$ 11,257	\$ 13,671
Work in process	9,386	9,664
Finished goods	31,472	24,216
Total	<u>\$ 52,115</u>	<u>\$ 47,551</u>

(5) Property, Plant and Equipment, Net

Property, plant and equipment consist of the following:

	June 30, 2025	December 31, 2024	Useful life
	(In thousands)		
Construction in progress	\$ 53,833	\$ 352,567	—
Buildings	27,045	27,032	30 years
Machinery and equipment	205,164	201,789	3-10 years
Computer equipment and software	7,606	9,794	3 years
Leasehold improvements	25,584	24,843	Shorter of useful life or lease term
Total	319,232	616,025	
Accumulated depreciation	(162,961)	(156,749)	
Property, plant and equipment, net	<u>\$ 156,271</u>	<u>\$ 459,276</u>	

Depreciation expense was \$11.6 million and \$11.8 million for the six months ended June 30, 2025 and 2024, respectively.

In February 2025, as part of a restructuring plan, the Company decided to cease construction at its previously planned second manufacturing plant in Statesboro, Georgia (the Statesboro Plant) and demobilize the site. In connection with the same, the Company adjusted the construction in progress balance to its salvage value and recorded impairment charges of \$286.6 million during the three months ended, March 31, 2025. The Company plans to divest the assets of the Statesboro Plant through broker-assisted sales. During the three months ended June 30, 2025, certain of the assets of the Statesboro Plant with a carrying value of \$26.5 million met the criteria to be classified as held for sale and are separately classified on the balance sheet. A disposal group is reported as held for sale when management has approved or received approval to sell and is committed to a formal plan, the disposal group is available for immediate sale, the disposal group is being actively marketed, the sale is anticipated to occur during the next 12 months and certain other specified criteria are met. A disposal group classified as held for sale is recorded at the lower of its carrying amount or estimated fair value less cost to sell. No adjustment was necessary to the carrying values as they approximated fair values at June 30, 2025. The construction in progress balance at June 30, 2025 and December 31, 2024 included \$25.6 million and \$323.6 million, respectively, for the Statesboro Plant.

During the three months ended June 30, 2025, the Company implemented additional actions under the restructuring plan, which included headcount reduction and rationalizing research and development programs. As a result of the restructuring plan, the Company recorded impairment charges of \$1.0 million, which are included in impairment of property, plant and equipment in the consolidated statement of operations. Additionally, during the three months ended June 30, 2025, the Company identified assets under

construction that will no longer be used and recorded impairment charges of \$0.7 million which are included in costs of revenue in the consolidated statements of operations.

The Company recorded impairment charges of approximately \$0.8 million and \$6.8 million during the three and six months ended June 30, 2024, respectively, for equipment that will no longer be needed in manufacturing following customer directed engineering changes to a part the Company manufactures and for other property, plant and equipment that have become obsolete following development of new and more efficient equipment. The impairment charges of \$6.8 million during the six months ended June 30, 2024 consist of \$4.1 million impairment included in cost of revenue and \$2.7 million included in impairment of property, plant and equipment on the Company's consolidated statement of operations.

(6) Accrued Expenses

Accrued expenses consist of the following:

	June 30, 2025	December 31, 2024
	(In thousands)	
Employee compensation	\$ 4,486	\$ 19,371
Other accrued expenses	11,078	17,124
Total	\$ 15,564	\$ 36,495

(7) Related Party Transactions

Convertible Note

During the year ended December 31, 2022, the Company issued a \$100.0 million aggregate principal amount convertible note (the 2022 Convertible Note) to Wood River Capital, LLC (Wood River), an entity affiliated with Koch Strategic Platforms, LLC (Koch), for the previously planned Statesboro Plant.

During the six months ended June 30, 2024, the Company incurred \$5.6 million of interest from the 2022 Convertible Note.

The Company repurchased the 2022 Convertible Note on August 19, 2024. See "Note 8. Convertible Note – Related Party" for additional detail.

Other

The Company had \$2.8 million in accounts payable as of December 31, 2023, due to an entity affiliated with Koch for project management service. On March 27, 2024, the Company entered into a Settlement and Release Agreement with the affiliate of Koch to settle the accounts payable for \$1.2 million, which was paid during the three months ended June 30, 2024.

(8) Convertible Note – Related Party

2022 Convertible Note

On February 15, 2022, the Company entered into a note purchase agreement (the Note Purchase Agreement) with Wood River, relating to the issuance and sale to Wood River of the 2022 Convertible Note in the aggregate principal amount of \$100.0 million. The transactions contemplated by the Note Purchase Agreement closed on February 18, 2022. The maturity date of the 2022 Convertible Note was February 18, 2027, subject to earlier conversion, redemption, or repurchase.

The 2022 Convertible Note was a senior unsecured obligation of the Company and ranked equal in right of payment to all senior unsecured indebtedness of the Company and ranked senior in right of payment to any indebtedness that was contractually subordinated to the 2022 Convertible Note.

On August 19, 2024, the Company entered into a note purchase and sale agreement with Wood River (the Note Repurchase Agreement), pursuant to which the Company repurchased from Wood River \$123.9 million in aggregate capitalized principal amount

(inclusive of PIK interest paid through June 30, 2024) of the 2022 Convertible Note, such aggregate amount being the entire outstanding amount of the 2022 Convertible Note, for a total purchase price of \$150.0 million in cash, which amount equals to the Redemption Price (as defined in the 2022 Convertible Note). Pursuant to the Note Repurchase Agreement, all rights and obligations, covenants and agreements under the 2022 Convertible Note and the Note Purchase Agreement were satisfied and discharged. The Redemption Price less capitalized principal amount and accrued interest to redemption date of \$24.6 million along with unamortized deferred issuance costs was classified in the income statement as Loss on Extinguishment of Debt during the three months ended September 30, 2024.

(9) Debt

On August 19, 2024, the Borrowers entered into the Credit Agreement, by and among the Borrowers, the Agent, the Lenders and the other parties party thereto as additional guarantors and/or borrowers from time to time. Loans borrowed under the MidCap Loan Facility mature on August 19, 2029.

The MidCap Loan Facility is comprised of (i) the Term Loan Facility in an aggregate principal amount of \$125 million and (ii) the Revolving Facility in an aggregate principal amount not to exceed the lesser of (A) \$100 million and (B) the value of the Borrowing Base.

Loans borrowed under the Term Loan Facility will bear interest rate equal to Term SOFR (as defined in the Credit Agreement) for a one-month interest period plus 4.50% per year, subject to a Term SOFR floor of 4.50% and a Term SOFR cap of 7.50%. The Term Loan Facility is subject to amortization of principal, payable quarterly on the last day of each quarter, commencing September 30, 2024, in an amount as set forth in the Credit Agreement with the remaining aggregate principal amount payable on the maturity date. The Borrowers are required to pay the Lenders an exit fee of \$2.5 million on the maturity date. Additionally, the Borrowers are required to pay an origination fee of \$1.3 million annually on the anniversary of the closing date.

Loans borrowed under the Revolving Facility will bear an interest rate equal to Term SOFR plus 4.60% per year, subject to a Term SOFR floor of 2.50%. The Revolving Facility has a required minimum balance set at 30% of the average Borrowing Base during the immediate preceding month. The Borrowers are required to pay the Lenders under the Revolving Facility an unused line fee of 0.30% of the average unused availability under the Revolving Facility, subject to the aforementioned minimum balance.

The MidCap Loan Facility is guaranteed by Aspen Mexico and is secured by a lien on substantially all existing and after-acquired assets of the Loan Parties, including the equity interest in Aspen RI, Aspen Mexico and Aspen Georgia owned by the Company, in each case, subject to customary exceptions. Aspen Georgia is not a guarantor (thus not a Loan Party) and its assets are excluded from the collateral under the MidCap Loan Facility, subject to its entrance into the DOE Loan Documents (as defined in the Credit Agreement) within one year from the closing date of the MidCap Loan Facility. To the extent the DOE Loan Documents will not be entered into within such one-year period, Aspen Georgia will be obligated to become a Loan Party under the MidCap Loan Facility and pledge substantially all of its assets as security for the obligations thereunder. As further described below, on May 6, 2025, Aspen Georgia became a Loan Party under the MidCap Loan Facility.

The Credit Agreement includes representations and warranties, affirmative covenants (including reporting obligations), negative covenants and events of default that are usual and customary for facilities of this type, in each case, subject to certain permitted exceptions as set forth therein. The Credit Agreement includes financial covenants for the benefit of the Lenders, including (i) a covenant to maintain Liquidity (as defined therein) equal to or greater than \$75.0 million at all times and (ii) a covenant to maintain EBITDA (as defined therein) equal to or greater than the specified applicable amount set forth in the Credit Agreement, tested quarterly with the first test set at \$45.0 million commencing with the fiscal quarter ended September 30, 2024.

The Borrowers will have the right to prepay the loans outstanding under the MidCap Loan Facility (or, with respect to the Revolving Facility, terminate the commitments thereunder), subject to a premium equal to 3.0% of the amount prepaid or terminated, as applicable, during the first year after the closing date, which premium will be decreased to 2.0% during the second year after the closing date and to 1.0% thereafter. The Borrowers will be required to mandatorily prepay the loans outstanding under the Term Loan Facility with, among other things, certain casualty insurance proceeds or proceeds from non-ordinary course assets sales (which will also be subject to the aforementioned premium). The Borrowers will be required to mandatorily prepay the balance outstanding under the Revolving Facility (i) if the outstandings exceed the Borrowing Base in an aggregate amount equal to that excess or (ii) upon a cash dominion event of all the funds deposited in the lockbox account during the cash dominion period. A cash dominion event is triggered (x) upon the occurrence of any Specified Event of Default (as defined in the Credit Agreement to include payment default, failure to deliver monthly or annual financials, financial covenant breach or bankruptcy) or any event of default arising from the failure to comply with the requirement to deliver a monthly Borrowing Base certificate, in each case, after any applicable grace period set forth in the Credit Agreement and/or cure rights applicable thereto or (y) if the Liquidity is less than \$100 million.

Amendment to MidCap Loan Facility

On May 6, 2025, the Company, Aspen RI, Aspen Mexico and Aspen Georgia entered into that certain Amendment No. 1 and Joinder to Credit, Security and Guaranty Agreement (Amendment No. 1), by and among the Company, Aspen RI, Aspen Mexico, Aspen Georgia, MidCap Funding IV Trust, as Agent, MidCap Financial Trust, as term loan servicer, and the Lenders party thereto, amending the MidCap Loan Facility (the MidCap Loan Facility, as amended by Amendment No. 1, the Amended MidCap Loan Facility).

Under Amendment No. 1, Aspen Georgia has become a borrower under the Amended MidCap Loan Facility and has (a) guaranteed the obligations of the Credit Parties (as defined in the Amended MidCap Loan Facility) and (b) granted Agent for the benefits of the Lenders a lien on substantially all of its existing and after-acquired assets, in each case, subject to customary exceptions.

As a result of Amendment No. 1, the applicable margin under the MidCap Loan Facility has been amended such that upon the effectiveness of Amendment No. 1, (a) (i) Loans borrowed under the Term Loan Facility will bear interest rate equal to Term SOFR (as defined in the Amended MidCap Loan Facility) for one-month interest period plus 5.00% per year, subject to a Term SOFR floor of 4.50% and a Term SOFR cap of 7.50% and (ii) Loans borrowed under the Revolving Facility will bear interest rate equal to Term SOFR for one-month interest period plus 5.10% per year, subject to a Term SOFR floor of 2.50%, in each case of (i) and (ii), until the first Pricing Date (as defined in the Amended MidCap Loan Facility as the date five business days after the delivery of a compliance certificate to the Agent for the most recently ended fiscal quarter) after December 31, 2025 and (b) on such first Pricing Date and as thereafter adjusted on each Pricing Date (i) Loans borrowed under the Term Loan Facility will bear interest equal to Term SOFR for one-month interest period plus a margin equal to (x) if the recently reported EBITDA (as defined in the Amended MidCap Loan Facility) is equal to or above \$50 million, 4.50% or (y) if the recently reported EBITDA is below \$50 million, 5.00%, in each case of (x) and (y), subject to a Term SOFR floor of 4.50% and a Term SOFR cap of 7.50%, and (ii) Loans borrowed under the Revolving Facility will bear interest equal to Term SOFR for one-month interest period plus a margin equal to (x) if the recently reported EBITDA is equal to or above \$50 million, 4.60% or (y) if the recently reported EBITDA is below \$50 million, 5.10%, in each case of (x) and (y), subject to a Term SOFR floor of 2.50%. The schedule for amortization of principal of the Term Loan Facility (which remains payable on the last day of each fiscal quarter with remaining principal amount payable on the maturity date) has also been updated with new amounts as set forth in the Amended MidCap Loan Facility.

Pursuant to Amendment No. 1, the financial covenants under the MidCap Loan Facility have been amended such that (a) the minimum Liquidity (as defined in the Amended MidCap Loan Facility) which must be maintained at all times has changed from \$75 million to an amount equal to the greater of (i) \$50 million and (ii) 85% of the then aggregate outstanding principal amount of the Term Loan Facility and (b) the minimum EBITDA level to be tested quarterly has changed to reflect a new range from \$15 million to \$50 million, with the next test set at \$15 million with respect to the fiscal quarter ended June 30, 2025 and a \$50 million level applicable commencing with the fiscal quarter ended December 31, 2027 and thereafter. The Liquidity amount trigger of a cash dominion event has also been reduced from \$100 million to an amount equal to the greater of (i) \$50 million and (ii) 85% of the then aggregate outstanding principal amount of the Term Loan Facility.

MidCap debt consists of the following:

	June 30, 2025	December 31, 2024
	(In thousands)	
Term loan	105,500	118,500
Exit fee	646	264
Term loan issuance costs	(2,881)	(4,053)
Total debt	103,265	114,711
Current portion	26,000	19,750
Long term portion	77,265	94,961

The revolving line of credit had an outstanding balance of \$29.0 million as of June 30, 2025, net of unamortized issuance costs. During the six months ended June 30, 2025 the Company repaid \$13.2 million of the revolving line credit to reduce the outstanding balance to the Borrowing Base.

(10) Commitments and Contingencies

Cloud Computing Agreement

The Company is party to multiple cloud computing agreements that are service contracts for enterprise resource planning software programs and payroll services. The amortization period of the cloud computing agreement for the existing enterprise resource planning software program was adjusted during the three months ended March 31, 2024, to align with implementation of a new enterprise resource planning software and is now fully amortized. During the three months ended, June 30, 2025, the Company updated the implementation date of the new enterprise resource planning software to January 2026, which will begin to amortize thereafter.

The amortization associated with the payroll services agreement began during the three months ended September 30, 2024 and will amortize over a period of five years.

The capitalized implementation costs are classified on the consolidated balance sheets as follows:

	June 30, 2025	December 31, 2024
	(In thousands)	
Cloud computing costs included in other current assets	\$ 37	\$ 637
Cloud computing costs included in other assets	7,098	4,299
Amortization of cloud computing costs	(1,600)	(1,053)
Total capitalized cloud computing costs	<u>\$ 5,535</u>	<u>\$ 3,883</u>

Thermal Barrier Contracts

The Company is party to production contracts with General Motors LLC (GM) to supply fabricated, multi-part thermal barriers (Barriers) for use in the battery system of its next-generation EVs (Contracts). Pursuant to the Contracts, the Company is obligated to supply Barriers at fixed prices, adjusted periodically, and at volumes to be specified by the original equipment manufacturer (OEM) up to a daily maximum quantity through the respective terms of the agreements, which expire at various times from 2026 through 2034. While the OEM has agreed to purchase its requirement for Barriers from the Company for locations to be designated from time to time by the OEM, it has no obligation to purchase any minimum quantity of Barriers under the Contracts. In addition, the OEM may terminate the Contracts any time and for any or no reason. All other terms of the Contracts are generally consistent with the OEM's standard purchase terms, including quality and warranty provisions that are customary in the automotive industry.

Charges for Engineering Change

In January 2024, the Company was notified by a customer of an engineering change to one of the parts the Company manufactures for that customer to enable incremental productivity increases and support a set of broader system level changes that could drive higher demand for its parts. The Company submitted claims to the customer for reimbursement for estimated inventory and equipment losses incurred by the Company and its vendors due to potential obsolescence. In connection with the same, during the three months ended March 31, 2024, the Company recognized a charge of \$6.8 million, net of contractual recoverable of \$1.9 million, in cost of revenues for inventory obsolescence and impairment of equipment. During the three months ended June 30, 2024, the customer approved reimbursement of parts of the claim totaling \$4.2 million for equipment losses incurred by the Company and its vendors, which was recognized as an offset to the charge the Company recognized during the three months ended March 31, 2024 in cost of revenues. During the three months ended September 30, 2024, the customer approved the remaining claims related to inventory obsolescence of \$2.2 million, in addition to the contractual recoverable amount of \$1.9 million, which was also recognized as an offset to the charge recognized during the three months ended March 31, 2024 in cost of revenues.

Letters of Credit

The Company has provided certain customers with letters of credit securing obligations under commercial contracts. As of June 30, 2025, the Company had \$0.4 million of restricted cash to support our outstanding letters of credit. The Company had letters of credit outstanding of \$0.4 million at December 31, 2024 and these letters of credit were secured by the Company's restricted cash.

Federal, State and Local Environmental Regulations

The Company is subject to federal, state and local environmental laws and regulations. These laws generally provide for control of pollutants released into the environment and require responsible parties to undertake remediation. Penalties may be imposed for noncompliance.

Litigation

The Company is, from time to time, a party to litigation that arises in the normal course of its business operations. See Part II, Item 1 “Legal Proceedings” of this Quarterly Report on Form 10-Q for a description of certain of the Company’s current legal proceedings. The Company is not presently a party to any litigation for which it believes a loss is probable requiring an amount to be accrued or a possible loss contingency requiring disclosure.

Purchase Commitments

As of June 30, 2025, the Company had purchase commitments of approximately \$52.5 million, which included capital commitments of \$11.5 million. Capital commitments include \$1.3 million of commitments related to the Company's previously planned Statesboro Plant. The Company's purchase commitments related to capital expenditures, excluding for the previously planned Statesboro Plant, are anticipated to be spent over the next three years, while the Company's remaining purchase commitments are anticipated to be spent throughout 2025.

Purchase obligations relate primarily to open purchase orders for capital expenditures, inventories, and goods and services. Purchase obligations are entered into with various vendors in the normal course of business and are consistent with the Company's expected requirements.

Warranty

The Company offers warranties to its customers depending upon the specific product.

The Company’s standard warranty period for energy industrial products extends to one year from the date of shipment. This standard warranty provides that the Company’s products will be free from defects in material and workmanship, and will, under normal use, conform to the specifications for the product.

The Company’s thermal barrier products provide quality and warranty provisions customary in the automotive industry.

The Company recorded warranty expense of \$0.5 million during the six months ended June 30, 2025 and \$0.7 million during the six months ended June 30, 2024.

(11) Leases and sale and leaseback

The Company leases office, laboratory, warehouse and fabrication space in Massachusetts, Rhode Island and Monterrey, Mexico under operating leases. Under these agreements, the Company is obligated to pay annual rent, real estate taxes, and certain other operating expenses. The Company also leases equipment under operating and finance leases. The Company’s leases expire at various dates through 2034.

Maturities of operating and finance lease liabilities as of June 30, 2025 are as follows:

Year	Operating Leases	Finance Leases
	(In thousands)	
2025 (excluding the six months ended June 30, 2025)	3,069	924
2026	5,671	1,846
2027	4,764	2,551
2028	4,668	129
2029	4,217	-
Thereafter	15,179	-
Total lease payments	37,568	5,450
Less imputed interest	(12,759)	(701)
Total lease liabilities	\$ 24,809	\$ 4,749

The Company incurred operating lease costs of \$3.2 million and \$2.7 million during the six months ended June 30, 2025 and 2024, respectively. Cash payments related to operating lease liabilities were \$3.1 million and \$2.6 million during the six months ended June 30, 2025 and 2024, respectively.

The Company incurred finance lease costs of \$0.5 million during the six months ended June 30, 2025. Cash payments related to finance lease liabilities were \$0.9 million during the six months ended June 30, 2025. The Company did not incur any finance lease costs or make any cash payments during the comparable 2024 period.

As of June 30, 2025, the weighted average remaining lease term for operating leases was 7.3 years and the weighted average discount rate for operating leases was 12.1%.

As of June 30, 2025, the weighted average remaining lease term for finance leases was 2.6 years and the weighted average discount rate for finance leases was 10.2%.

Sale and leaseback transaction

In January and September 2024, the Company entered into sale and leaseback arrangements, pursuant to which the Company sold certain equipment to an equipment leasing company for one-time cash payments of \$5.0 million and \$10.0 million, respectively, leased back such equipment from the leasing company. The transactions were considered as failed sale and leaseback transactions and, accordingly, were accounted for as financing transactions. The Company did not recognize a gain on any of the proceeds received from the lessor that contractually constitute payments to acquire the assets subject to these arrangements. Instead, the sale proceeds received were accounted for as finance obligations. The monthly lease rents will be paid over the term of three years and will be allocated between interest expense and principal repayment of the financial liability.

The outstanding finance obligation balance as of June 30, 2025 was \$11.4 million. Maturities of finance obligations for sale and leaseback at June 30, 2025 are as follows:

Year	Finance Obligation
	(In thousands)
2025 (excluding the six months ended June 30, 2025)	2,801
2026	5,602
2027	5,279
Total lease payments	13,682
Less imputed interest	(2,322)
Total lease liabilities	\$ 11,360

(12) Stock based compensation

During the six months ended June 30, 2025, the Company granted 305,158 restricted stock units (RSUs) with an aggregate grant date fair value of \$2.4 million, non-qualified stock options (NSOs) to purchase 430,175 shares of common stock with an aggregate

grant date fair value of \$2.4 million and 610,323 performance share units (PSUs) with an aggregate grant date fair value of \$7.0 million to employees under its equity incentive plans. The RSUs and NSOs granted to employees will typically vest over a three-year period. Vesting of any performance share units so earned generally is also contingent upon the grantee's continued employment (or other service) with the Company through the third anniversary of the date of grant.

The Company also granted RSUs that vest over a period of three years which are settled in cash. During the three and six months ended June 30, 2025, the Company incurred expenses of \$0.4 million and \$0.5 million, respectively. The Company has accounted for these as liability-classified awards and accordingly changes in the market value of the instruments will be recorded to costs of revenue or operating expense, as applicable, over the vesting period of the award. The fair value of a liability-classified award is determined on a quarterly basis beginning at the grant date until final vesting. These awards will be settled on the vesting dates and the maximum liability is capped at 200% of the fair value of the award at the grant date.

During the six months ended June 30, 2024, the Company also granted 51,850 shares of RSUs with a grant date fair value of \$0.3 million and NSOs to purchase 45,525 shares of common stock with a grant date fair value of \$0.2 million to its non-employee directors under the 2023 Equity Plan. The RSUs and NSOs granted to non-employee directors will typically vest over a one-year period.

The Company's stockholders approved the Aspen Aerogels Amended and Restated 2023 Equity Incentive Plan (the 2023 Plan) at the 2025 Annual Meeting of Stockholders of the Company held on April 30, 2025 (the Annual Meeting). The 2023 Plan was previously approved by the Company's Board of Directors (the Board). As amended and restated, the number of shares of the Company's common stock reserved for issuance under the 2023 Plan has been increased by 3,850,000 shares to 16,971,994 shares and the term of the 2023 Plan has been extended until April 29, 2035. As of June 30, 2025, 5,362,341 shares of common stock were reserved for issuance upon the exercise or vesting of outstanding stock-based awards granted under the Company's equity incentive plans. Any cancellations or forfeitures of awards outstanding under the 2023 Plan, the 2014 Employee, Director and Consultant Equity Incentive Plan or the 2001 Equity Incentive Plan, as amended, will result in the shares reserved for issuance pursuant to such awards becoming available for grant under the 2023 Plan. As of June 30, 2025, the Company has either reserved in connection with statutory tax withholdings or issued a total of 6,272,092 shares under the Company's equity incentive plans. As of June 30, 2025, there were 5,337,561 shares of common stock available for future grant under the 2023 Plan.

At the Annual Meeting, the Company's stockholders also approved the Aspen Aerogels Employee Stock Purchase Plan (the ESPP). The ESPP was previously approved by the Board. The objective of the ESPP is to offer eligible employees of the Company and its designated subsidiaries the ability to purchase shares of the Company's common stock at a 15% discount from the fair market value of the stock as determined on specific dates at six-month intervals, subject to various limitations under the ESPP. 4,000,000 shares of the Company's common stock are authorized for issuance under the ESPP. The offering periods for the ESPP generally start on the first trading day on or after June 1st and December 1st of each year. The first offering period for the ESPP commenced on the first trading day after June 1, 2025 and will end on November 30, 2025, with the second offering period commencing on the first trading day after December 1, 2025 and ending on May 31, 2026. During the three months and six months ended June 30, 2025, less than \$0.1 million of stock-based compensation was recognized for the ESPP.

Stock-based compensation is included in cost of revenue or operating expenses, as applicable, and consists of the following:

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	2025	2024	2025	2024
	(In thousands)		(In thousands)	
Cost of product revenue	\$ 214	\$ 198	\$ 161	\$ 359
Research and development expenses	206	279	414	703
Sales and marketing expenses	522	463	985	785
General and administrative expenses	2,269	2,031	3,724	5,830
Total stock-based compensation	<u>\$ 3,211</u>	<u>\$ 2,971</u>	<u>\$ 5,284</u>	<u>\$ 7,677</u>

The Company recognizes forfeitures on share-based payments as they occur. During the three and six months ended June 30, 2025, stock-based compensation includes \$(0.8) million and \$(1.7) million, respectively, for forfeitures recorded during the period. During the three and six months ended June 30, 2024, stock-based compensation includes \$0.0 million and \$(0.1) million, respectively, for forfeitures recorded during the period.

On March 5, 2024, the Compensation and Leadership Development Committee (the Committee) of the Board of the Company approved the cancellation of the outstanding, unearned portion of the performance-based restricted shares granted to certain

employees pursuant to the 2014 Equity Plan on June 29, 2021 (to Donald R. Young) and June 2, 2022 (to certain other employees). The Committee determined that based on current market conditions, the likelihood of achievement of any of the remaining performance hurdles applicable to the unearned restricted shares was remote, and that the unearned restricted shares therefore had ceased to have incentive value for the grantees. On March 6, 2024, the Company entered into cancellation agreements, pursuant to which the applicable employees agreed to such cancellation.

The cancelled unearned restricted shares were added to the number of shares available for awards under the Company's 2023 Equity Plan. For financial accounting purposes, the cancellation of the unearned restricted shares resulted in the immediate charge of approximately \$2.2 million of unamortized stock compensation costs of which \$2.0 million is included in the general and administrative expenses and \$0.2 million is included in research and development expenses in the accompanying consolidated statement of operations.

(13) Net Income (Loss) Per Share

The computation of basic and diluted net loss per share consists of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
	(In thousands, except share and per share data)			
Numerator:				
Net income (loss)	\$ (9,056)	\$ 16,818	\$ (310,305)	\$ 14,983
Denominator:				
Weighted average shares outstanding, basic	82,179,136	76,336,811	82,122,719	76,049,852
Weighted average shares outstanding, diluted	82,179,136	78,981,383	82,122,719	78,749,199
Net income (loss) per share, basic	\$ (0.11)	\$ 0.22	\$ (3.78)	\$ 0.20
Net income (loss) per share, diluted	\$ (0.11)	\$ 0.21	\$ (3.78)	\$ 0.19

Potentially dilutive common shares that were excluded from the computation of diluted loss income per share because they were anti-dilutive consist of the following:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
Common stock options	4,310,825	92,049	4,310,825	156,436
Restricted common stock units	1,008,154	40,064	1,008,154	2,582
Restricted common stock awards	—	—	—	943
Convertible note, if converted	—	4,139,542	—	4,139,542
Total	5,318,979	4,271,655	5,318,979	4,299,503

The potential dilutive shares from common stock options, restricted common stock units, restricted common stock awards, and the convertible note were excluded from the calculation of diluted net loss per share because their effect would have been anti-dilutive for the periods presented. The Company excludes the shares issued in connection with restricted stock awards from the calculation of basic weighted average common shares outstanding until the restrictions lapse.

(14) Income Taxes

The Company incurred net operating loss for the three and six months ended June 30, 2025 and 2024. The Company incurred net operating losses and recorded a full valuation allowance against net deferred tax assets for all prior periods. Accordingly, the Company has not recorded a provision for federal income taxes for the three and six months ended June 30, 2025. The Company has recorded a provision for state income taxes of \$0.4 million during each of the three and six months ended June 30, 2025. The Company has provided \$1.5 million and \$1.6 million of income tax expense related to its Mexican maquiladora operations for the six months ended June 30, 2025 and 2024, respectively.

On July 4, 2025, H.R. 1 (the “Act”), formerly known as the One Big Beautiful Bill Act, was signed into law in the United States, introducing changes to U.S. federal tax provisions affecting businesses. The Act includes modifications to the capitalization of research and development expenses and to the depreciation of fixed assets. The Company is currently evaluating the full impact of the Act on its financial position, results of operations, and cash flows. The Company does not expect the Act to have a material effect on its financial statements. Since the Act was enacted after the close of the quarter ended June 30, 2025, its effects are not reflected in the Company’s results for the six months ended June 30, 2025.

(15) Segment Information

Operating segments are identified as components of an enterprise about which separate, discrete financial information is available for evaluation by the chief operating decision maker in making decisions on how to allocate resources and assess performance. The Company’s chief operating decision maker is the Chief Executive Officer. The Company’s chief operating decision maker reviews consolidated operating results to make decisions about allocating resources and assessing performance for the entire Company. The Company reports two segments: Energy Industrial and Thermal Barrier. The Company evaluates segment performance based on the segment profit (loss) before corporate expenses.

Summarized below are the Revenue, Cost of Goods Sold and Segment Operating Profit for each reporting segment:

	Revenue Three Months Ended June 30,		Cost of Goods Sold Three Months Ended June 30,		Revenue Six Months Ended June 30,		Cost of Goods Sold Six Months Ended June 30,	
	2025	2024	2025	2024	2025	2024	2025	2024
	(In thousands)		(In thousands)		(In thousands)		(In thousands)	
Energy industrial	\$ 22,793	\$ 36,923	\$ 14,483	\$ 21,468	\$ 52,615	\$ 66,005	\$ 32,615	\$ 38,988
Thermal barrier	55,231	80,847	38,225	44,724	104,132	146,266	76,004	86,562
Total	<u>\$ 78,024</u>	<u>\$ 117,770</u>	<u>\$ 52,708</u>	<u>\$ 66,192</u>	<u>\$ 156,747</u>	<u>\$ 212,271</u>	<u>\$ 108,619</u>	<u>\$ 125,550</u>

	Segment Operating Profit (Loss)			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
	(In thousands)		(In thousands)	
Energy industrial	\$ 8,310	\$ 15,455	\$ 20,000	\$ 27,017
Thermal barrier	17,006	36,123	28,128	59,704
Total	<u>\$ 25,316</u>	<u>\$ 51,578</u>	<u>\$ 48,128</u>	<u>\$ 86,721</u>
Corporate expenses	24,578	31,592	50,329	61,597
Restructuring and demobilization costs	4,938	—	14,728	—
Impairment of property, plant and equipment	955	—	287,567	2,702
Operating profit (loss)	(5,155)	19,986	(304,496)	22,422
Other expense, net	(3,080)	(2,302)	(3,912)	(5,817)
Income tax expense	(821)	(866)	(1,897)	(1,622)
Net income (loss)	<u>\$ (9,056)</u>	<u>\$ 16,818</u>	<u>\$ (310,305)</u>	<u>\$ 14,983</u>

	Depreciation Expense			
	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
	(In thousands)		(In thousands)	
Energy industrial	\$ 2,844	\$ 2,812	\$ 5,710	\$ 6,236
Thermal barrier	2,952	3,174	5,879	5,536
Consolidated depreciation expense	<u>\$ 5,796</u>	<u>\$ 5,986</u>	<u>\$ 11,589</u>	<u>\$ 11,772</u>

	June 30, 2025	Total Assets (In thousands)	December 31, 2024
Energy industrial	\$	91,614	\$ 103,453
Thermal barrier		139,114	159,934
Total assets of reportable segments		230,728	263,387
Construction in progress and held for sale		80,326	352,545
All other corporate assets		214,078	279,212
	\$	525,132	\$ 895,144

(16) Restructuring and Demobilization Costs

In February 2025, the Company announced and began implementing a restructuring plan to realign the Company's operational focus to improve costs and align capital expenditure to anticipated long term demand. The plan included reducing the Company's headcount and ceasing construction of the Company's previously planned Statesboro Plant. In connection with the demobilization, the Company is no longer pursuing its application for a loan from the Department of Energy's Loan Programs Office and has withdrawn from the loan application process.

During the three months ended June 30, 2025, the Company announced further headcount reduction to realign the Company's operation and to improve costs.

As a result of the restructurings and the demobilization, the Company incurred the charges shown in the following table. Asset write-downs are included within impairment expenses in the consolidated statements of operations.

	Restructuring and Demobilization Costs	
	Three Months Ended June 30, 2025	Six Months Ended June 30, 2025
	(In thousands)	
Severance and other personnel costs	\$ 3,116	\$ 5,982
Demobilization costs	1,822	2,573
Deferred financing costs write-off	—	6,173
Total	\$ 4,938	\$ 14,728

(17) Subsequent Events

The Company has evaluated subsequent events through August 7, 2025, the date of issuance of the consolidated financial statements for the three and six months ended June 30, 2025.

As of June 30, 2025, the Company had notified Prodensa of the intent to purchase OPE. On July 31, 2025, the purchase of OPE was completed for a nominal value in accordance with the terms of the agreement.

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

The following information should be read in conjunction with the unaudited financial information and the notes thereto included in this Quarterly Report on Form 10-Q and the audited financial information and the notes thereto included in the Annual Report on Form 10-K for the year ended December 31, 2024, filed with the U.S. Securities and Exchange Commission (SEC) on February 27, 2025, which we refer to as the Annual Report.

Certain matters discussed in this Quarterly Report on Form 10-Q may be deemed to be forward-looking statements that involve risks and uncertainties. We make such forward-looking statements pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995 and other federal securities laws. In this Quarterly Report on Form 10-Q, words such as “may,” “will,” “anticipate,” “estimate,” “expects,” “projects,” “intends,” “plans,” “believes” and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements.

Our actual results and the timing of certain events may differ materially from the results discussed, projected, anticipated, or indicated in any forward-looking statements. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity, and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this Quarterly Report on Form 10-Q. In addition, even if our results of operations, financial condition and liquidity, and the development of the industry in which we operate are consistent with the forward-looking statements contained in this Quarterly Report on Form 10-Q, they may not be predictive of results or developments in future periods.

The following information and any forward-looking statements should be considered in light of factors discussed elsewhere in this Quarterly Report on Form 10-Q, including Part I Item 1 “Financial Statements,” which includes our financial statements and related notes, and under the sections titled “Risk Factors” in Item 1A of the Annual Report and this Quarterly Report on Form 10-Q.

We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in our expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Investors and others should note that we routinely use the Investors section of our website to announce material information to investors and the marketplace. While not all of the information that we post on the Investors section of our website is of a material nature, some information could be deemed to be material. Accordingly, we encourage investors, the media, and others interested in us to review the information that we share on the Investors section of our website, <https://www.aerogel.com>.

Products

Our core businesses are organized into two reportable segments: Thermal Barrier and Energy Industrial. The following describes our key product offerings and new product innovations by reportable segment.

Thermal Barrier

We are actively developing a number of promising aerogel products and technologies for the EV market. We have developed and are commercializing our proprietary line of PyroThin aerogel thermal barriers for use in battery packs in EVs. Our PyroThin product is an ultra-thin, lightweight and flexible thermal barrier designed with other functional layers to impede the propagation of thermal runaway across multiple lithium-ion battery system architectures. Our thermal barrier technology is designed to offer a unique combination of thermal management, mechanical performance and fire protection properties. These properties enable EV manufacturers to achieve critical battery performance and safety goals by impeding the propagation of thermal runaway in lithium-ion battery systems at the battery cell, module and pack levels across multiple lithium-ion battery system architectures. Our ultra-thin, lightweight and flexible thermal barriers are designed to allow battery manufacturers to achieve critical safety goals without sacrificing energy density. The commercial potential for our PyroThin thermal barriers in the EV market is significant.

We have entered into multi-year production contracts with a number of automotive EV OEM customers to supply fabricated, multi-part thermal barriers for use in the battery systems of their EV models. These customers include General Motors LLC (GM), Toyota, Scania, Automotive Cells Company, which is a battery cell joint venture between Stellantis N.V., Saft-TotalEnergies and Mercedes-Benz, Audi, a luxury brand of the Volkswagen Group, Volvo Truck, and a large EU battery manufacturer to supply a next generation vehicle platform of a major EU luxury sports car brand. We are currently supplying thermal barrier production parts to both

General Motors and Toyota, and thermal barrier prototype parts to a number of global manufacturers of EVs, grid storage and home battery systems. During fiscal years 2024, 2023 and 2022, we sold \$306.8 million, \$110.1 million and \$55.6 million, respectively, of our PyroThin thermal barriers.

Energy Industrial

We also design, develop and manufacture innovative, high-performance aerogel insulation used primarily in the energy industrial market. We believe our aerogel blankets deliver the best thermal performance of any widely used insulation product available on the market today and provide a combination of performance attributes unmatched by traditional insulation materials. Our insulation products help end-users to improve resource efficiency, reduce energy consumption, and reduce the carbon footprint of their operations. These products enable compact system design, reduce installation time and costs, promote freight and logistics cost savings, reduce system weight, minimize required storage space and enhance job site safety. Our insulation products reduce the incidence of corrosion under insulation, which is a significant maintenance cost and safety issue in energy industrial facilities. Our end-user customers select our products where thermal performance is critical and to save money, improve resource efficiency, enhance sustainability, preserve operating assets and protect workers. Our insulation is used by oil producers and the owners and operators of refineries, petrochemical plants, liquefied natural gas (LNG) facilities, power generating assets and other energy industrial sites. Our Pyrogel® and Cryogel® product lines have undergone rigorous technical validation by industry leading end-users and achieved significant market adoption.

We also derive revenue from a number of other end markets. Customers in these markets use our products for applications as diverse as military and commercial aircraft, trains, buses, appliances, apparel, footwear and outdoor gear. As we continue to enhance our Aerogel Technology Platform, we believe we will have additional opportunities to address high-value applications in the global insulation market, and in a number of new, high-value markets, including hydrogen energy, filtration, water purification, and gas sorption.

We market and sell our products primarily through a sales force based in North America, Europe and Asia. The efforts of our sales force are supported by a small number of sales consultants with extensive knowledge of a particular market or region. Our sales force is responsible for establishing and maintaining customer and partner relationships, delivering highly technical information and ensuring high-quality customer service.

Our salespeople work directly with end-user customers and engineering firms to promote the qualification, specification and acceptance of our aerogel and thermal barrier products. We also rely on an existing and well-established channel of qualified insulation distributors and contractors in more than 50 countries around the world to ensure rapid delivery of our aerogel products and strong end-user support.

Manufacturing Operations

We manufacture our products using our proprietary technology at our facility in East Providence, Rhode Island. We have operated the East Providence facility since 2008 and have increased our capacity in phases. During 2024, we converted our East Providence facility to support the growth of the thermal barrier program. To meet expected demand for our aerogel products, we plan to make additional productivity improvements in our existing East Providence facility and utilize a flexible supply strategy, including but not limited to use of our external manufacturing capabilities in China, which currently support our Energy Industrial segment and are capable of delivering increased aerogel production capacity. We expect that the productivity improvements in our existing East Providence facility as well as the supply from our external manufacturing facility will permit us to achieve our target revenue capacity in 2025. Pursuant to our supply contract with this contract manufacturer, they are obligated to deliver products to us as we issue purchase orders on an as-needed basis through the term of the contract. The contract automatically renews year-to-year unless either party notifies the other of its intention not to renew the contract. While we have agreed to purchase our requirement for certain Energy Industrial products from the contract manufacturer, we have no obligation to purchase any minimum quantity under the contract and we may terminate the contract at any time and for any or no reason. Additionally, we have entered into a contract with Prodensa to establish OPE Manufacturer Mexico S de RL de CV, a maquiladora located in Mexico (OPE), which assembles thermal barrier PyroThin products and operates an automated fabrication facility for PyroThin. Pursuant to such contract, we pay Prodensa a management fee and have an option to purchase OPE from Prodensa after a period of 18 months. On July 31, 2025, the purchase of OPE was completed for a nominal value in accordance with the terms of the agreement.

We expect to meet our long-term Thermal Barrier program demand by maximizing capacity at our East Providence facility and utilizing a flexible supply strategy, including, but not limited to, using our external manufacturing capabilities.

Financial Summary

Our revenue for the six months ended June 30, 2025 was \$156.7 million, which represented a decrease of \$55.5 million, or 26%, from \$212.2 million for the six months ended June 30, 2024. Net loss for the six months ended June 30, 2025 was \$310.3 million and net loss per share was \$3.78. Net income for the six months ended June 30, 2024 was \$15.0 million and net income per share was \$0.20.

Key Metrics and Non-GAAP Financial Measures

We regularly review a number of metrics, including the following key metric, to evaluate our business, measure our performance, identify trends affecting our business, formulate financial projections and make strategic decisions.

Adjusted EBITDA

We use Adjusted EBITDA, a non-GAAP financial measure, as a means to assess our operating performance. We define Adjusted EBITDA as net income (loss) before interest expense, taxes, depreciation, amortization, stock-based compensation expense and other items, from time to time, which we do not believe are indicative of our core operating performance. Adjusted EBITDA is a supplemental measure of our performance that is not presented in accordance with U.S. GAAP. Adjusted EBITDA should not be considered as an alternative to net income (loss) or any other measure of financial performance calculated and presented in accordance with U.S. GAAP. In addition, our definition and presentation of Adjusted EBITDA may not be comparable to similarly titled measures presented by other companies.

We use Adjusted EBITDA:

- as a measure of operating performance because it does not include the impact of items that we do not consider indicative of our core operating performance;
- for planning purposes, including the preparation of our annual operating budget;
- to allocate resources to enhance the financial performance of our business; and
- as a performance measure used under our bonus plan.

We also believe that the presentation of Adjusted EBITDA provides useful information to investors with respect to our results of operations and in assessing the performance and value of our business. Various measures of EBITDA are widely used by investors to measure a company's operating performance without regard to items that can vary substantially from company to company depending upon financing and accounting methods, book values of assets, capital structures and the methods by which assets were acquired.

Although measures similar to Adjusted EBITDA are frequently used by investors and securities analysts in their evaluation of companies, we understand that Adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for net income (loss), income (loss) from operations, net cash provided by (used in) operating activities or an analysis of our results of operations as reported under U.S. GAAP. Some of these limitations are:

- Adjusted EBITDA does not reflect our historical cash expenditures or future requirements for capital expenditures or other contractual commitments;
- Adjusted EBITDA does not reflect changes in, or cash requirements for, our working capital needs;
- Adjusted EBITDA does not reflect stock-based compensation expense;
- Adjusted EBITDA does not reflect our income tax expense or cash requirements to pay our income taxes;
- Adjusted EBITDA does not reflect our interest expense, or the cash requirements necessary to service interest or principal payments on our debt;
- although depreciation, amortization and impairment charges are non-cash charges, the assets being depreciated, amortized or impaired will often have to be replaced in the future, and Adjusted EBITDA does not reflect any cash requirements for these replacements; and
- other companies in our industry may calculate EBITDA or Adjusted EBITDA differently than we do, limiting their usefulness as a comparative measure.

Because of these limitations, our Adjusted EBITDA should not be considered as a measure of discretionary cash available to us to reinvest in the growth of our business or as a measure of cash available for us to meet our obligations.

To properly and prudently evaluate our business, we encourage you to review the U.S. GAAP financial statements included elsewhere in this Quarterly Report on Form 10-Q, and not to rely on any single financial measure to evaluate our business.

The following table presents a reconciliation of net income (loss), the most directly comparable U.S. GAAP measure, to Adjusted EBITDA for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
	(In thousands)			
Net income (loss)	\$ (9,056)	\$ 16,818	\$ (310,305)	\$ 14,983
Depreciation and amortization	5,796	5,986	11,589	11,772
Stock-based compensation ⁽¹⁾	3,211	2,971	5,284	7,677
Other expense	3,080	2,302	3,912	5,817
Income tax expense	821	866	1,897	1,622
Restructuring and demobilization costs	4,938	—	14,728	—
Impairment of property, plant and equipment	955	—	287,567	—
Adjusted EBITDA	<u>\$ 9,745</u>	<u>\$ 28,943</u>	<u>\$ 14,672</u>	<u>\$ 41,871</u>

⁽¹⁾ Represents non-cash stock-based compensation related to vesting and modifications of stock option grants, restricted stock units and restricted common stock, and cash settled restricted stock units issued in March 2025.

Our financial performance, including such measures as net income (loss), earnings per share and Adjusted EBITDA, are affected by a number of factors including volume and mix of aerogel products sold, average selling prices, our material costs and manufacturing expenses, the costs associated with capacity expansions and start-up of additional production capacity, and the amount and timing of operating expenses. Accordingly, we expect that our net income (loss), earnings per share and Adjusted EBITDA will vary from period to period.

Our expectation for thermal barrier revenue is based, in part, on our OEM customers' production volume forecasts and targets. Our OEM customers operate in a cyclical industry that is sensitive to shifting consumer trends, political and regulatory uncertainty and economic conditions in the markets they operate. EV adoption rates in some of our customers' markets are expected to be at a slower rate than originally expected and EV investment continues to be re-timed as demand expectations in North America and Europe are reset. However, some of our OEM customers have been gaining market share from a low base volume and expect to continue to gain market share in 2025. Furthermore, changes in government and economic policies, incentives, and tariffs may impact our customers and our production, sales, cost structure and the competitive landscape. Additionally, our OEM customers continue to innovate which could result in engineering changes to the parts we supply primarily to reduce costs for our OEMs. Cost-cutting initiatives adopted by our customers may result in increased downward pressure on pricing. Our customer supply agreements generally require step-downs in component pricing over the periods of production and OEMs have historically possessed significant leverage over their outside suppliers. Accordingly, we expect thermal barrier revenues to decline in 2025. Additionally, we are projecting a decline in energy industrial revenue due to expected volume decline in our core markets and an anticipated decline in project-based demand. We will continue to adjust to these developments, and we believe our ongoing cost reduction, including reduced headcount, and improved production innovation and efficiency, will benefit us. As a result, we expect a decline in net income and Adjusted EBITDA during 2025. We also expect reduced capital expenditures during 2025.

Components of Our Results of Operations

Revenue

We recognize revenue from the sale of our energy industrial aerogel products and thermal barriers. Revenue is recognized upon the satisfaction of contractual performance obligations.

We record deferred revenue for sales when (i) we have delivered products, but other revenue recognition criteria have not been satisfied, or (ii) payments have been received in advance of the completion of required performance obligations.

Cost of Revenue

Cost of product revenue consists primarily of materials and manufacturing expense. Cost of product revenue is recorded when the related product revenue is recognized.

Material is a significant component of cost of product revenue and includes fibrous batting, silica materials and additives. Material costs as a percentage of product revenue vary from product to product due to differences in average selling prices, material requirements, product thicknesses, and manufacturing yields. In addition, we provide warranties for our products and record the estimated cost within cost of revenue in the period that the related revenue is recorded or when we become aware that a potential warranty claim is probable and can be reasonably estimated. As a result of these factors, material costs as a percentage of product revenue will vary from period to period due to changes in the mix of aerogel products sold, the costs of our raw materials or the estimated cost of warranties. In addition, global supply chain disturbances, increased reliance on foreign materials procurement, industrial gas supply constraints, increases in the cost of our raw materials, engineering changes, higher prototype sales and other factors may significantly impact our material costs and have a material impact on our operations.

Manufacturing expense is also a significant component of cost of revenue. Manufacturing expense includes labor, utilities, maintenance expense, and depreciation on manufacturing assets. Manufacturing expense also includes stock-based compensation of manufacturing employees and shipping costs.

We are also continuing to monitor the impact on our material costs, manufacturing expense, and cost of product revenue from engaging one or more external manufacturing facilities in China to supply our aerogel products, which began in 2024.

Gross Profit

Our gross profit as a percentage of revenue is affected by a number of factors, including the volume of products produced and sold, the mix of products sold, average selling prices, our material and manufacturing costs, realized capacity utilization and the costs associated with expansions and start-up of production capacity. Accordingly, we expect our gross profit to vary significantly in absolute dollars and as a percentage of revenue from period to period.

Operating Expenses

Operating expenses consist of research and development, sales and marketing, and general and administrative expenses. Operating expenses include personnel costs, legal fees, professional fees, service fees, insurance premiums, travel expense, facilities related costs and other costs, expenses and fees. The largest component of our operating expenses is personnel costs, consisting of salaries, benefits, incentive compensation and stock-based compensation. In any particular period, the timing and extent of personnel additions or reductions, legal activities, including patent enforcement actions, marketing programs, research efforts and a range of similar activities or actions could materially affect our operating expenses, both in absolute dollars and as a percentage of revenue.

Research and Development Expenses

Research and development expenses consist primarily of expenses for personnel engaged in the development of next generation aerogel compositions, form factors and manufacturing technologies. These expenses also include testing services, prototype expenses, consulting services, trial formulations for new products, equipment depreciation, facilities costs and related overhead. We expense research and development costs as incurred. We expect to continue to devote substantial resources to the development of new aerogel technologies. We believe that these investments are necessary to maintain and improve our competitive position. We also expect to continue to invest in research and engineering personnel and the infrastructure required in support of their efforts.

Sales and Marketing Expenses

Sales and marketing expenses consist primarily of personnel costs, incentive compensation, marketing programs, costs of new product and process introductions, travel and related costs, consulting expenses and facilities related costs.

General and Administrative Expenses

General and administrative expenses consist primarily of personnel costs, legal expenses, consulting and professional services, audit fees, compliance with securities, corporate governance and related laws and regulations, investor relations and insurance premiums, including director and officer insurance.

We expect that the patent enforcement actions, described in more detail under “Legal Proceedings” in Part I, Item 3 of our Annual Report and “Legal Proceedings” in Part II, Item 1 of this Quarterly Report on Form 10-Q, if protracted, could result in significant legal expense over the medium to long-term.

Restructuring and demobilization costs

Restructuring and demobilization costs consists of severance and other personnel costs, facility closures and other costs associated with the demobilization of our previously planned Statesboro Plant.

Impairment of property, plant and equipment

In 2025, impairment of property, plant and equipment consists of impairment incurred on our previously planned Statesboro Plant and impairment of other property, plant and equipment in connection with a restructuring action.

During the fiscal year ended December 31, 2024, the impairment of equipment under development was the result of a charge for impairment of assets due to obsolescence following development of new and more efficient equipment.

Interest Expense, Convertible Note - Related Party

Interest expense, convertible note - related party is net of the capitalized interest related to the 2022 Convertible Note which we sold and issued to Wood River. The Company repurchased the 2022 Convertible Note on August 19, 2024.

Interest Income (Expense)

Interest expense consists of interest expense and amortization or write-off of deferred financing costs related to our other financing arrangements including a failed sale and leaseback arrangement accounted as a financing transaction and interest earned on the cash balances invested in deposit accounts, money market accounts, and high-quality debt securities issued by the U.S. government.

Provision for Income Taxes

We have incurred net losses since inception with the exception of the year ended December 31, 2024, and have not recorded benefit provisions for U.S. federal income taxes since the tax benefits of our net losses have been offset by valuation allowances due to the uncertainty associated with the utilization of net operating loss carryforwards. We record tax expenses in connection with provisions for state income taxes and our Mexican maquiladora operations.

Results of Operations

Three months ended June 30, 2025 compared to the three months ended June 30, 2024

The following tables set forth a comparison of the components of our results of operations for the periods presented:

Revenue

	Three Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	(\$ in thousands)					
Revenue:						
Energy industrial	\$ 22,793	29%	\$ 36,923	31%	\$ (14,130)	(38)%
Thermal barrier	55,231	71%	80,847	69%	(25,616)	(32)%
Total revenue	\$ 78,024	100%	\$ 117,770	100%	\$ (39,746)	(34)%

Total revenue decreased \$39.7 million, or 34%, to \$78.0 million for the three months ended June 30, 2025 from \$117.7 million in the comparable period in 2024. The decrease in total revenue was the result of decreases in thermal barrier revenue and energy industrial revenue.

Energy industrial revenue decreased by \$14.1 million, or 38%, to \$22.8 million for the three months ended June 30, 2025 from \$36.9 million in the comparable period in 2024. This decrease was driven by a decrease in revenue from the global petrochemical and refinery markets of North America, Latin America and Europe, and project-based demand in the subsea market, offset in part by an increase in revenue from the global petrochemical and refinery market of Asia.

Energy industrial revenue for the three months ended June 30, 2025 included \$1.7 million to a North American distributor, in comparison to \$6.0 million for the comparable period of 2024.

The average selling price per square foot of our energy industrial products increased by less than 1% for the three months ended June 30, 2025, compared to the three months ended June 30, 2024. The increase in average selling price reflected the impact of price increases enacted in 2025 and a change in the mix of products sold. This increase in average selling price had the effect of increasing product revenue by less than \$0.1 million for the three months ended June 30, 2025 from the comparable period in 2024.

In volume terms, energy industrial product shipments decreased by 39% as measured by square feet of our energy industrial products shipped for the three months ended June 30, 2025, compared to the three months ended June 30, 2024. The decrease in volume had the effect of decreasing product revenue by \$14.2 million for the three months ended June 30, 2025 from the comparable period in 2024.

Thermal barrier revenue decreased by \$25.6 million, or 32%, to \$55.2 million for the three months ended June 30, 2025 from \$80.8 million in the comparable period in 2024. During the three months ended June 30, 2025 and 2024, thermal barrier revenue included \$53.8 million and \$76.9 million, respectively, to a major U.S. automotive OEM. The decrease in thermal barrier revenue was driven by a reduction in the volume of parts ordered by our OEM customer and a lower contractual component price during the period compared to the same period in the prior year.

Cost of Revenue

	Three Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Related Revenue	Amount	Percentage of Related Revenue	Amount	Percentage
	(\$ in thousands)					
Cost of revenue:						
Energy industrial	\$ 14,483	64%	\$ 21,468	58%	\$ (6,985)	(33)%
Thermal barrier	38,225	69%	44,724	55%	(6,499)	(15)%
Total cost of revenue	\$ 52,708	68%	\$ 66,192	56%	\$ (13,484)	(20)%

Total cost of revenue decreased \$13.5 million, or 20%, to \$52.7 million for the three months ended June 30, 2025 from \$66.2 million in the comparable period in 2024. The decrease in total cost of revenue was the result of a decrease in thermal barrier cost of revenue and energy industrial cost of revenue.

Energy industrial cost of revenue decreased \$7.0 million, or 33%, to \$14.5 million for the three months ended June 30, 2025 from \$21.5 million in the comparable period in 2024, primarily due to a decrease in the volume of products shipped. The \$7.0 million decrease was the result of a \$5.8 million decrease in material costs and a \$1.2 million decrease in manufacturing and other operating costs.

Thermal barrier cost of revenue decreased \$6.5 million, or 15%, to \$38.2 million for the three months ended June 30, 2025 from \$44.7 million in the comparable period in 2024. The \$6.5 million decrease was the result of a \$17.0 million decrease in material costs, offset by a \$6.3 million increase in manufacturing costs and a \$4.2 million credit during the three months ended, June 30, 2024 for reimbursement of costs related to the impact from an engineering change, which did not repeat. Material costs decreased primarily due to lower volume and operational efficiencies generating lower scrap. Manufacturing costs increased due to unabsorbed overheads from the temporary partial shutdown of manufacturing lines to manage lower volumes.

Gross Profit

	Three Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
Gross profit:						
Energy industrial	\$ 8,310	36%	\$ 15,455	42%	\$ (7,145)	(46)%
Thermal barrier	17,006	31%	36,123	45%	(19,117)	(53)%
Total gross profit	\$ 25,316	32%	\$ 51,578	44%	\$ (26,262)	(51)%

Gross profit decreased by \$26.2 million, or 51%, to \$25.3 million for the three months ended June 30, 2025 from \$51.5 million in the comparable period in 2024. The decrease in gross profit was the result of the \$39.7 million decrease in total revenue, partially offset by the \$13.5 million decrease in total cost of revenue.

Research and Development Expenses

	Three Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
Research and development expenses	\$ 3,794	5%	\$ 4,565	4%	\$ (771)	(17)%

Research and development expenses decreased by \$0.7 million, or 17%, to \$3.8 million for the three months ended June 30, 2025 from \$4.5 million in the comparable period in 2024. The \$0.7 million decrease reflects decreases in compensation and related costs, partially driven by a headcount reduction of \$1.0 million, partially offset by an increase in other expenses of \$0.3 million.

Research and development expenses as a percentage of total revenue was 5% of total revenue for each of the three months ended June 30, 2025 and 2024.

Sales and Marketing Expenses

	Three Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
			(\$ in thousands)			
Sales and marketing expenses	\$ 6,948	9%	\$ 9,521	8%	\$ (2,573)	(27)%

Sales and marketing expenses decreased by \$2.6 million, or 27%, to \$6.9 million for the three months ended June 30, 2025 from \$9.5 million in the comparable period in 2024. The \$2.6 million decrease reflects decreases in compensation and related costs, partially driven by a headcount reduction of \$1.9 million and \$0.7 million in operating supplies and equipment.

Sales and marketing expenses as a percentage of total revenue increased to 9% of total revenue for the three months ended June 30, 2025 from 8% in the comparable period in 2024.

General and Administrative Expenses

	Three Months Ended June 30,					
	2025		2024		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	(\$ in thousands)					
General and administrative expenses	\$ 13,836	18%	\$ 17,506	15%	\$ (3,670)	(21)%

General and administrative expenses decreased by \$3.7 million, or 21%, to \$13.8 million for the three months ended June 30, 2025 from \$17.5 million in the comparable period in 2024. The \$3.7 million decrease was the result of decreases in compensation and related costs, partially driven by a headcount reduction of \$1.9 million, foreign currency transaction losses of \$1.2 million, professional fees of \$0.9 million, and insurance costs of \$0.3 million, partially offset by an increase in utilities expenditures of \$0.6 million.

General and administrative expenses as a percentage of total revenue increased to 18% for the three months ended June 30, 2025 from 15% in the comparable period in 2024.

Restructuring and demobilization costs

In February 2025, we announced and began implementing a restructuring plan to realign our operational focus to improve costs and align capital expenditure to anticipated long term demand. The plan included reducing our headcount and ceasing construction of our previously planned Statesboro Plant. Restructuring and demobilization costs include severance and other personnel costs of \$3.1 million and facility closures and other costs associated with demobilization of \$1.8 million for the three months ended June 30, 2025. We did not incur restructuring, facility closure or demobilization costs for the three months ended June 30, 2024.

Impairment of property, plant and equipment

Impairment of property, plant and equipment costs increased \$1.0 million for the three months ended June 30, 2025 from the comparable period in 2024, due to impairment incurred on research and development equipment. We did not incur impairment of property, plant and equipment costs for the three months ended June 30, 2024.

Other Income (Expense), net

	Three Months Ended June 30,					
	2025		2024		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	(\$ in thousands)					
Other income (expense):						
Interest expense, related party	\$ —	0%	\$ (3,043)	(3)%	\$ 3,043	(100)%
Interest income (expense), net	(3,080)	(4)%	741	1%	(3,821)	(516)%
Total other income (expense), net	\$ (3,080)	(4)%	\$ (2,302)	(2)%	\$ (778)	34%

The \$3.0 million decrease in interest expense, related party for the three months ended June 30, 2025 is the result of the repurchase of the 2022 Convertible Note in August 2024.

The \$3.8 million increase in interest expense, net for the three months ended June 30, 2025 is the result of a \$4.5 million increase in interest expense from the MidCap Loan Facility and sale and leaseback transactions, offset by an increase in interest income of \$0.7 million.

Income Tax Expense

	Three Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
Income tax expense	\$ 821	1%	\$ 866	1%	\$ (45)	(5)%

The \$0.8 million of income tax expense for the three months ended June 30, 2025 is related to our maquiladora operations in Mexico, in addition to a provision for state income taxes of \$0.4 million. We incurred \$0.9 million of income tax expense related to our maquiladora operations in Mexico for the comparable period in 2024.

Results of Operations

Six months ended June 30, 2025 compared to the six months ended June 30, 2024

The following tables set forth a comparison of the components of our results of operations for the periods presented:

Revenue

	Six Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	(\$ in thousands)					
Revenue:						
Energy industrial	\$ 52,615	34%	\$ 66,005	31%	\$ (13,390)	(20)%
Thermal barrier	104,132	66%	146,266	69%	(42,134)	(29)%
Total revenue	\$ 156,747	100%	\$ 212,271	100%	\$ (55,524)	(26)%

Total revenue decreased \$55.5 million, or 26%, to \$156.7 million for the six months ended June 30, 2025 from \$212.2 million in the comparable period in 2024. The decrease in total revenue was the result of decreases in thermal barrier revenue and energy industrial revenue.

Energy industrial revenue decreased by \$13.4 million, or 20%, to \$52.6 million for the six months ended June 30, 2025 from \$66.0 million in the comparable period in 2024. This decrease was driven by a decrease in revenue from the global petrochemical and refinery markets of North America, Europe, and Latin America, and in project-based demand in the subsea market, offset in part by an increase in revenue from the global petrochemical and refinery market of Asia.

Energy industrial revenue for the six months ended June 30, 2025 included \$12.3 million to a North American distributor, in comparison to \$13.5 million for the comparable period of 2024.

The average selling price per square foot of our energy industrial products increased by less than 1% for the six months ended June 30, 2025, compared to the six months ended June 30, 2024. The increase in average selling price reflected the impact of price increases enacted in 2025 and a change in the mix of products sold. This increase in average selling price had the effect of increasing product revenue by \$0.1 million for the six months ended June 30, 2025 from the comparable period in 2024.

In volume terms, energy industrial product shipments decreased by 20% as measured by square feet of our energy industrial products shipped for the six months ended June 30, 2025, compared to the six months ended June 30, 2024. The decrease in volume

had the effect of decreasing product revenue by \$13.5 million for the six months ended June 30, 2025 from the comparable period in 2024.

Thermal barrier revenue decreased by \$42.1 million, or 29%, to \$104.1 million for the six months ended June 30, 2025 from \$146.2 million in the comparable period in 2024. During the six months ended June 30, 2025 and 2024, thermal barrier revenue included \$101.2 million and \$137.5 million, respectively, to a major U.S. automotive OEM. The decrease in thermal barrier revenue was driven by a reduction in the volume of parts ordered by our OEM customer and a lower contractual component price during the period compared to the same period in the prior year.

Cost of Revenue

	Six Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Related Revenue	Amount	Percentage of Related Revenue	Amount	Percentage
Cost of revenue:						
Energy industrial	\$ 32,615	62%	\$ 38,988	59%	\$ (6,373)	(16)%
Thermal barrier	76,004	73%	86,562	59%	(10,558)	(12)%
Total cost of revenue	\$ 108,619	69%	\$ 125,550	59%	\$ (16,931)	(13)%

Total cost of revenue decreased \$16.9 million, or 13%, to \$108.6 million for the six months ended June 30, 2025 from \$125.5 in the comparable period in 2024. The decrease in total cost of revenue was the result of a decrease in thermal barrier cost of revenue and energy industrial cost of revenue.

Energy industrial cost of revenue decreased \$6.4 million, or 16%, to \$32.6 million for the six months ended June 30, 2025 from \$39.0 million in the comparable period in 2024, primarily due to a decrease in the volume of products shipped. The \$6.4 million decrease was the result of a \$6.5 million decrease in manufacturing and other operating costs due to lower volume of energy industrial products manufactured at our plant.

Thermal barrier cost of revenue decreased \$10.5 million, or 12%, to \$76.0 million for the six months ended June 30, 2025 from \$86.5 million in the comparable period in 2024. The \$10.5 million decrease was the result of a \$12.4 million decrease in material costs and a \$2.6 million charge for engineering change during the six months ended June 30, 2024, which did not repeat, offset by a \$4.5 million increase in manufacturing costs. Material costs decreased primarily due to lower volume and operational efficiencies generating lower scrap. Manufacturing costs increased due to unabsorbed overheads from the temporary partial shutdown of manufacturing lines to manage lower volumes.

Gross Profit

	Six Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
(\$ in thousands)						
Gross profit:						
Energy industrial	\$ 20,000	38%	\$ 27,017	41%	\$ (7,017)	(26)%
Thermal barrier	28,128	27%	59,704	41%	(31,576)	53%
Total gross profit (loss)	\$ 48,128	31%	\$ 86,721	41%	\$ (38,593)	(45)%

Gross profit decreased by \$38.6 million, or 45%, to \$48.1 million for the six months ended June 30, 2025 from \$86.7 million in the comparable period in 2024. The decrease in gross profit was the result of the \$55.5 million decrease in total revenue, partially offset by the \$16.9 million decrease in total cost of revenue.

Research and Development Expenses

	Six Months Ended June 30,					
	2025		2024		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	(\$ in thousands)					
Research and development expenses	\$ 8,127	5%	\$ 9,054	4%	\$ (927)	(10)%

Research and development expenses decreased by \$0.9 million, or 10%, to \$8.1 million for the six months ended June 30, 2025 from \$9.0 million in the comparable period in 2024. The \$0.9 million decrease reflects decreases in compensation and related costs, partially driven by a headcount reduction of \$1.2 million, operating supplies and equipment of \$0.1 million and professional fees of \$0.1 million, partially offset by an increase in utilities expenditures of \$0.5 million.

Research and development expenses as a percentage of total revenue increased to 5% of total revenue for the three months ended June 30, 2025 from 4% in the comparable period in 2024.

Sales and Marketing Expenses

	Six Months Ended June 30,					
	2025		2024		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
	(\$ in thousands)					
Sales and marketing expenses	\$ 15,332	10%	\$ 17,824	8%	\$ (2,492)	(14)%

Sales and marketing expenses decreased by \$2.5 million, or 14%, to \$15.3 million for the six months ended June 30, 2025 from \$17.8 million in the comparable period in 2024. The \$2.5 million decrease reflects decreases in compensation and related costs, partially driven by a headcount reduction of \$1.8 million, operating supplies and equipment of \$0.6 million, and marketing expenditures of \$0.2 million, partially offset by an increase in other expenses of \$0.1 million.

Sales and marketing expenses as a percentage of total revenue increased to 10% of total revenue for the six months ended June 30, 2025 from 8% in the comparable period in 2024.

General and Administrative Expenses

	Six Months Ended June 30,					
	2025		2024		Change	
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
				(\$ in thousands)		
General and administrative expenses	\$ 26,870	17%	\$ 34,719	16%	\$ (7,849)	(23)%

General and administrative expenses decreased by \$7.8 million, or 23%, to \$26.9 million for the six months ended June 30, 2025 from \$34.7 million in the comparable period in 2024. The \$7.8 million decrease was the result of decreases in compensation and related costs, partially driven by a headcount reduction of \$6.3 million, foreign currency transaction losses of \$2.3 million, professional fees of \$0.5 million and depreciation and facility related expenses of \$0.5 million, partially offset by an increase in utilities expenditures of \$1.3 million and insurance costs of \$0.5 million. Compensation and related costs for the six months ended June 30, 2024 included \$2.0 million of charge from the cancellation of the unearned performance-based restricted shares.

General and administrative expenses as a percentage of total revenue was 17% for each of the six months ended June 30, 2025 and 2024.

Restructuring and demobilization costs

In February 2025, we announced and began implementing a restructuring plan to realign our operational focus to improve costs and align capital expenditure to anticipated long term demand. The plan included reducing our headcount and ceasing construction of our previously planned Statesboro Plant. In connection with the demobilization, we are no longer pursuing our application for a loan from the Department of Energy's Loan Programs Office and have withdrawn from the loan application process. Restructuring and demobilization costs for the six months ended June 30, 2025 include severance and other personnel costs of \$6.0 million, facility closures and other costs associated with demobilization of \$2.6 million and write off of deferred financing costs of \$6.2 million.

incurred in connection with pursuing financing for the construction of the plant. We did not incur restructuring and demobilization costs for the six months ended June 30, 2024.

Impairment of property, plant and equipment

Impairment of property, plant and equipment costs increased \$284.9 million for the six months ended June 30, 2025 from the comparable period in 2024, due to impairment incurred of \$286.6 million on our previously planned Statesboro Plant. Impairment of \$2.7 million for the six months ended June 30, 2024 was the result of a charge for impairment of equipment under development due to obsolescence following development of new and more efficient equipment.

Other Income (Expense), net

	Six Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
Other income (expense):						
Interest expense, related party	\$ —	0%	\$ (6,081)	(3)%	\$ 6,081	(100)%
Interest expense, net	(5,042)	(3)%	264	0%	(5,306)	(2010)%
Other income	1,130	1%	-	—	1,130	NM
Total interest income (expense), net	\$ (3,912)	(2)%	\$ (5,817)	(3)%	\$ 1,905	(33)%

The \$6.1 million decrease in interest expense, related party for the six months ended June 30, 2025 is the result of the repurchase of the convertible note in August 2024.

The \$5.3 million increase in interest expense, net for the six months ended June 30, 2025 is the result of a \$9.1 million increase in interest expense from the MidCap Loan Facility and sale and leaseback transactions, offset by \$1.8 million of deferred financing costs written off related to the loan agreement with GM during the three months ended March 31, 2024 which did not repeat during the comparable period and an increase in interest income of \$2.0 million.

The other income increase of \$1.1 million for the six months ended June 30, 2025 is the result of a legal settlement payment to us.

Income Tax Expense

	Six Months Ended June 30,				Change	
	2025		2024			
	Amount	Percentage of Revenue	Amount	Percentage of Revenue	Amount	Percentage
Income tax expense	\$ 1,897	1%	\$ 1,622	1%	\$ 275	17%

The \$1.9 million of income tax expense for the six months ended June 30, 2025 is related to our maquiladora operations in Mexico, in addition to a provision for state income taxes of \$0.4 million. We incurred \$1.6 million of income tax expense related to our maquiladora operations in Mexico for the comparable period in 2024.

Liquidity and Capital Resources

Overview

We have experienced significant costs and invested substantial resources since our inception to develop, commercialize and protect our aerogel technology and to build a manufacturing infrastructure capable of supplying aerogel products at the volumes and costs required by our customers. These investments have included research and development and other operating expenses, capital expenditures, and investment in working capital balances.

Our long-term financial projections anticipate revenue growth, increasing levels of gross profit, and improved cash flows from operations. To meet expected demand for our aerogel products, we plan to make additional productivity improvements in our existing

East Providence facility and utilize a flexible supply strategy, including but not limited to use of our external manufacturing capabilities in China, which currently support our Energy Industrial segment and are capable of delivering increased aerogel production capacity. We expect that the productivity improvements in our existing East Providence facility as well as the supply from our external manufacturing facility will permit us to achieve our target revenue capacity in 2025 and in the long-term.

On August 19, 2024, we entered into the Credit Agreement with the Agent and the Lenders. The MidCap Loan Facility under the Credit Agreement is comprised of (i) the Term Loan Facility in an aggregate principal amount of \$125.0 million and (ii) the Revolving Facility in an aggregate principal amount not to exceed the lesser of \$100.0 million and the value of the Borrowing Base. At closing of the Credit Agreement, the Company drew \$125.0 million from the Term Loan Facility and \$43.0 million from the Revolving Facility. The proceeds of the borrowings at closing, net of fees and costs, were used for repurchasing the 2022 Convertible Notes for \$150.0 million and for general corporate purposes. On May 6, 2025, the Credit Agreement was amended to add Aspen Georgia as a Borrower and to amend the MidCap Loan Facility.

In January 2024 and September 2024, we entered into sale and leaseback arrangements, pursuant to which we sold certain equipment to an equipment leasing company for one-time cash payments of \$5.0 million and \$10.0 million, respectively, and leased back such equipment from the leasing company. The associated monthly lease rents will be paid over the lease term of three years.

We believe that our June 30, 2025 cash and cash equivalents balance of \$167.6 million, together with the funds available under the MidCap Loan Facility, will be sufficient to support current operating requirements, current research and development activities and the capital expenditures required to support the evolving commercial opportunities in the EV market and other strategic business opportunities.

However, we may supplement our cash balance and available credit with equity financings, debt financings, equipment leasing, sale-leaseback transactions, customer prepayments or government grant and loan programs to provide the additional capital necessary to purchase the capital equipment, construct the new facilities and complete the aerogel capacity expansions required to support our evolving commercial opportunities and strategic business initiatives. We believe that consummation of equity financings could potentially result in an ownership change under Section 382 of the Internal Revenue Code. Such an ownership change would lead to the use of our net operating loss carryforwards being restricted. Our inability to use a substantial portion of our net operating loss carryforwards would result in a higher effective tax rate and adversely affect our financial condition and results of operations.

Primary Sources of Liquidity

Our principal sources of liquidity are currently our cash and cash equivalents, availability under the Revolving Facility, and cash generated by ongoing operations. Cash and cash equivalents consist primarily of cash, money market accounts, and sweep accounts on deposit with banks. As of June 30, 2025, we had \$167.6 million of unrestricted cash and cash equivalents.

Analysis of Cash Flow

	Six Months Ended June 30,	
	2025	2024
	(In thousands)	
Net cash provided by (used in):		
Operating activities	\$ 1,702	\$ (10,906)
Investing activities	(25,883)	(50,690)
Financing activities	(29,063)	13,400
Net decrease in cash	(53,244)	(48,196)
Cash, cash equivalents and restricted cash at beginning of period	221,276	139,971
Cash, cash equivalents and restricted cash at end of period	<u>\$ 168,032</u>	<u>\$ 91,775</u>

Net Cash Provided by (Used in) Operating Activities

During the six months ended June 30, 2025, we generated \$1.7 million in net cash in operating activities, as compared to the use of \$10.9 million in net cash during the comparable period in 2024, an increase in cash provided by operations of \$12.6 million. This increase in cash provided by operations was the result of an increase in net cash generated by changes in operating assets and liabilities of \$65.6 million, offset by a decrease in net loss adjusted for non-cash items of \$53.0 million.

Net Cash Used in Investing Activities

Net cash used in investing activities is for capital expenditures for machinery and equipment principally to improve the throughput, efficiency and capacity of our East Providence facility, our automated fabrication facility in Mexico and construction costs for the previously planned Statesboro Plant. Net cash used in investing activities for the six months ended June 30, 2025 and 2024 was \$25.9 million and \$50.7 million, respectively.

Net Cash Provided by (Used in) Financing Activities

Net cash used in financing activities for the six months ended June 30, 2025 totaled \$29.1 million and consisted of \$13.2 million in cash used for the repayment of the revolver, \$13.0 for the repayment of the Term Loan Facility, \$2.4 in repayments of the finance obligation under the sale and leaseback transaction, \$0.6 million for payments made for employee tax withholdings associated with the vesting of RSUs, \$0.2 million in proceeds from employee stock option exercises, and less than \$0.1 million in cash used for fees and issuance costs.

Net cash provided by financing activities for the six months ended June 30, 2024 totaled \$13.4 million and consisted of \$5.0 million in proceeds from a sale and leaseback transaction and \$10.1 million in proceeds from employee stock option exercises, offset by \$1.1 million in cash used for payments made for employee tax withholdings associated with the vesting of restricted stock units, \$0.5 million in repayments of a sales leaseback, and less than \$0.1 million in cash used for fees and issuance costs.

Contractual Obligations and Commitments

There have been no material changes to our contractual obligations and commitments as reported in our Annual Report.

Recent Accounting Pronouncements

Information regarding new accounting pronouncements is included in "Note 2. Significant Accounting Policies." to our unaudited consolidated financial statements contained in Item 1 of this Quarterly Report on Form 10-Q.

Critical Accounting Policies and Estimates

Our financial statements are prepared in accordance with U.S. GAAP. The preparation of our financial statements and related disclosures requires us to make estimates, assumptions and judgments that affect the reported amount of assets, liabilities, revenue, costs and expenses and related disclosures. We believe that the estimates, assumptions and judgments involved in these accounting policies have the greatest potential impact on our financial statements and, therefore, we consider these to be our critical accounting policies. Accordingly, we evaluate our estimates and assumptions on an ongoing basis. Our actual results may differ from these estimates under different assumptions and conditions. See our Annual Report and "Note 2. Significant Accounting Policies." to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q for information about these critical accounting policies, as well as a description of our other significant accounting policies.

Certain Factors That May Affect Future Results of Operations

The SEC encourages companies to disclose forward-looking information so that investors can better understand a company's future prospects and make informed investment decisions. This Quarterly Report on Form 10-Q contains such "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These statements involve known and unknown risks, uncertainties and other important factors, which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include, but are not limited to, statements about: our expectations about the market for our aerogel products, in particular in the EV market, the energy infrastructure insulation market, the lithium-ion battery thermal barrier markets, and other markets we target; our beliefs in the appropriateness of our assumptions, the accuracy of our estimates regarding expenses, loss contingencies, future revenues, revenue capacity, future profits, uses of cash, available credit, capital requirements, and the need for additional financing to operate our business and for capital expenditures and to fund our planned strategic business initiatives; the impact of new legislation on our financial statements; the performance of our aerogel products; our expectation that we will be successful in obtaining, enforcing and defending our patents against competitors and that such patents are valid and enforceable; our expectations regarding decommissioning of and our plans for divesting the assets of the Statesboro Plant; our estimates of annual production capacity; beliefs about the commercial potential for our technology in the EV market; beliefs about our ability to produce

and deliver products to EV customers; beliefs about our contracts with the major automotive manufacturers; our expectations about the size and timing of awarded business in the EV market, future revenues and profit margins, arising from our supply relationship and contract with automotive OEMs and our ability to win more business and increase revenue in the EV market; beliefs about the performance of our thermal barrier products in the battery systems of EVs; the current or future trends in the energy, energy infrastructure, chemical and refinery, LNG, sustainable building materials, EV thermal barrier, EV battery materials or other markets and the impact of these trends on our business; our investments in the EV market; our beliefs about the financial metrics that are indicative of our core performance; our expectations about the effect of manufacturing capacity on financial metrics such as Adjusted EBITDA; our expectations about future revenues, expenses, gross profit, net income (loss), income (loss) per share and Adjusted EBITDA, sources and uses of cash, capital requirements and the sufficiency of our existing cash balance and available credit; our beliefs about the outcome, effects or estimated costs of current or potential litigation or their respective timing, including expected legal expense in connection with our patent enforcement actions; our expectations about future material costs and manufacturing expenses as a percentage of revenue; our expectation about the ability of the Chinese external manufacturing facilities that we engage to consistently supply the aerogel product that we order in a timely manner; our expectation to meet long-term aerogel demand by maximizing capacity at our East Providence facility and utilizing a flexible supply strategy, including, but not limited to, using external manufacturing capabilities; the potential effects of tariffs on our business and results of operations; our expectations of future gross profit and the effect of manufacturing expenses, manufacturing capacity and productivity on gross profit; our expectations about our resources and other investments in new technology and related research and development activities and associated expenses; our expectations about short and long term (a) research and development (b) general and administrative and (c) sales and marketing expenses; our expectations of revenue growth, increased gross profit, and improving cash flows over the long term; our intentions about managing capital expenditures and working capital balances; our expectations and beliefs regarding the flexibility and efficiency of the MidCap facility; and our expectations about potential sources of future financing.

Words such as “may,” “will,” “anticipate,” “estimate,” “expects,” “projects,” “intends,” “plans,” “believes” and words and terms of similar substance used in connection with any discussion of future operating or financial performance, identify forward-looking statements. All forward-looking statements are management’s present expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those described in the forward-looking statements. These risks include, but are not limited to, those set forth in this Quarterly Report on Form 10-Q and under the heading “Risk Factors” contained in Item 1A of our Annual Report.

In light of these assumptions, risks and uncertainties, the results and events discussed in the forward-looking statements contained in this Quarterly Report on Form 10-Q might not occur. Stockholders and other readers are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this Quarterly Report on Form 10-Q. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent forward-looking statements attributable to Aspen Aerogels, Inc. or to any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure results primarily from fluctuations in interest rates, as well as from inflation. In the normal course of business, we are exposed to market risks, including changes in interest rates which affect our cash flows. We may also face additional exchange rate risk in the future as we expand our business internationally.

Interest Rate Risk

We are exposed to changes in interest rates in the normal course of our business. As of June 30, 2025, we had unrestricted cash and cash equivalents of \$167.6 million. These amounts were held for working capital and capital expansion purposes and were invested primarily in deposit accounts, money market accounts, and high-quality debt securities issued by the U.S. government via cash sweep accounts at major financial institutions in North America. Due to the short-term nature of these investments, we believe that our exposure to changes in the fair value of our cash as a result of changes in interest rates is not material.

As of June 30, 2025, the Term Loan Facility had a principal balance of \$105.5 million. Under the terms of the Credit Agreement, as amended by Amendment No. 1, the Term Loan Facility bears an interest rate equal to Term SOFR for a one-month interest period plus 5.00% per year, subject to a Term SOFR floor of 4.50% and a Term SOFR cap of 7.50%. Interest is paid monthly. As of June 30, 2025, the Revolving Facility had a principal balance of \$29.8 million. Our Revolving Facility bears interest at the Term SOFR plus 5.10% per annum. Under the terms of the Credit Agreement, as amended by Amendment No. 1, the Revolving Facility is subject to a Term SOFR floor of 2.50%. Interest is paid monthly. Therefore, fluctuations in interest rates will impact our consolidated financial statements. A rising interest rate environment will increase the amount of interest paid on these loans. A hypothetical 100 basis point increase or decrease in interest rates would not have a material effect on the results of our operations.

As of June 30, 2025, we had \$0.4 million of restricted cash to support our outstanding letters of credit to secure obligations under certain commercial contracts and other obligations.

Inflation Risk

Although we expect that our operating results will be influenced by general economic conditions, we do not believe that inflation has had a material effect on our results of operations during the periods presented in this report. However, our business may be affected by inflation in the future.

Foreign Currency Exchange Risk

We are subject to inherent risks attributed to operating in a global economy. A majority of our revenue, receivables, purchases and debts are denominated in U.S. dollars. Certain transactions of the Company and its subsidiaries are denominated in currencies other than the functional currency. During the three months ended June 30, 2025 and 2024, our largest exposures to foreign exchange rates consisted primarily of the Mexican Peso against the U.S. dollar. Foreign currency transaction gains were \$0.8 million for the six months ended June 30, 2025 and foreign currency transaction losses were \$1.5 million for the six months ended June 30, 2024. The foreign currency transactions were recorded within operating expenses on the consolidated statements of operations.

Item 4. Controls and Procedures.

(a) Evaluation of Disclosure Controls and Procedures.

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Securities Exchange Act of 1934, as amended (the Exchange Act), is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and 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.

As of June 30, 2025, our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit

relationship of possible controls and procedures. Based on such evaluation, our principal executive officer and principal financial officer have concluded that, as of June 30, 2025, our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and 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.

(b) *Changes in Internal Controls.*

During the three months ended June 30, 2025, there were no changes in our internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15(d)-15(f) promulgated under the Exchange Act, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II — OTHER INFORMATION

Item 1. Legal Proceedings.

We are involved in various legal claims and proceedings in the normal course of operations. We believe the outcome of these matters will not have a material adverse effect on our consolidated financial position, results of operations or liquidity, except as described in Part 1, Item 3. “Legal Proceedings” of our Annual Report on Form 10-K. Since the filing of our Form 10-K, there have been no material changes in our legal proceedings from those disclosed therein, other than as noted below.

Our patent infringement proceedings in Korea against Beerenberg Services AS, Beerenberg Korea Ltd., and Bronx (China) Co., Ltd., are ongoing. The patent infringement case at the Seoul District Court and our appeal of the Korea Trade Commission decision at the Seoul Administrative Court remain stayed pending the outcome of our appeals of the Korean Intellectual Property Trial and Appeal Board decisions to the Korean IP High Court.

In October 2022, we were served with a summons from Aerogels Poland Nanotechnology LLC (APN), a former distributor of our products in Poland with whom we previously terminated our distribution agreements because of APN’s failure to pay amounts due to us. The summons asserts causes of action for declaratory judgment, breach of contract, breach of implied contract, equitable estoppel and fraud, and states that plaintiffs will seek declaratory judgment, actual and liquidated damages in the sum of \$20 million, in addition to attorneys’ fees. We were not served with any complaint at the time the summons was served. In December 2022, we filed a notice of appearance in New York County Supreme Court and a demand upon plaintiffs to file and serve a complaint. In March 2023, plaintiffs filed a complaint asserting various causes of action consistent with those set forth in the October 2022 summons, and a demand for monetary damages and other relief in excess of \$16 million. In July 2023, we filed a motion to compel arbitration, and in February 2024, the Court granted our motion and stayed the litigation pending arbitration. To the extent APN seeks to pursue claims in an arbitration proceeding, we intend to continue to vigorously defend this matter, including seeking our legal costs.

Item 1A. Risk Factors.

The ownership of our common stock involves a number of risks and uncertainties. When evaluating the Company and our business before making an investment decision regarding our securities, potential investors should carefully consider the risk factors and uncertainties described in Part 1, Item 1A. “Risk Factors” of our Annual Report. Since the filing of our Annual Report, there have been no material changes in our risk factors from those disclosed in our Quarterly Report on Form 10-Q for the quarter ended March 31, 2025. We may disclose changes to risk factors or additional risk factors from time to time in our future filings with the SEC.

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

(a) Unregistered Sales of Equity Securities.

None.

(b) Use of Proceeds from Initial Public Offering of Common Stock.

Not applicable.

(c) Purchases of Equity Securities by the Issuer and Affiliated Purchasers.

We did not repurchase any of our equity securities during the quarter ended June 30, 2025.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not applicable.

Item 5. Other Information.

(a) Departure of Executive Officers and CFO Transition

On August 4, 2025, we and Ricardo C. Rodriguez, our Chief Financial Officer and Treasurer, determined that Mr. Rodriguez will depart the Company, effective as of October 1, 2025, to pursue other opportunities outside of the Company. Mr. Rodriguez's departure is not related to any disagreement with the Company on any matter relating to the Company's operations, policies or practices. We would like to thank Mr. Rodriguez for his contributions to the Company during a critical period of growth.

Effective October 1, 2025, we are promoting Grant Thoele, our current Chief of Staff to the CEO and Vice President of Corporate Strategy and Finance, to the position of Chief Financial Officer and Treasurer.

Mr. Thoele joined Aspen in August 2021 and has been crucial to the Company's FP&A, Commercial Finance, and Corporate Strategy functions. Mr. Thoele brings extensive experience across strategic planning, process improvement, cost optimization, and corporate development activities. Prior to joining Aspen, Mr. Thoele was a Vice President at Providence Equity Partners, a global private equity firm specializing in strategic growth investments from April 2017 to August 2021. Mr. Thoele began his career in public accounting at KPMG, LLP in January 2011. Mr. Thoele received his Bachelor of Business Administration and Master of Science in Accounting from Texas Tech University.

There are no transactions to which we are a party and in which Mr. Thoele has a material interest that are required to be disclosed under Item 404(a) of Regulation S-K. Except as discussed above, Mr. Thoele has not previously held any positions with us, and Mr. Thoele has no family relationship with any of our directors or executive officers.

On August 4, 2025, we and Stephanie Pittman, our Chief Human Resources Officer and Corporate Secretary, determined that Ms. Pittman will depart the Company, effective as of October 1, 2025, to pursue other opportunities outside of the Company. Ms. Pittman's departure is not related to any disagreement with the Company on any matter relating to the Company's operations, policies or practices. We would like to thank Ms. Pittman for her valuable contributions to the Company.

We are conducting an external search for a Chief Administrative Officer position, which role is expected to lead the legal, compliance and human resources functions at the Company.

(c) 10b5-1 Trading Plans

During the fiscal quarter ended June 30, 2025, the following directors and executive officers adopted a "rule 10b5-1 trading arrangement" (as defined in Item 408 of Regulation S-K of the Exchange Act).

- On June 3, 2025, Ricardo C. Rodriguez, Chief Financial Officer and Treasurer of the Company, adopted a Rule 10b5-1 Sales Plan (the "Plan"). Sales under the Plan may commence on September 2, 2025, after the completion of the required cooling off period under Rule 10b5-1. The Plan is intended to satisfy the affirmative defense of Rule 10b5-1(c) and provides for the sale of up to an aggregate of 25,353 shares of our common stock, plus the net number of shares of our common stock underlying certain restricted stock unit ("RSU") awards, until September 30, 2026 (or earlier if all shares under the Plan have been sold). The number of shares to be sold pursuant to the Rule 10b5-1 trading arrangement is indeterminable with respect to the RSU awards, as such number is subject to the number of shares that will be automatically sold to satisfy applicable tax withholding obligations upon vesting of the RSU awards, which will vary based on the market price of our common stock at the time of vesting.

Except as disclosed above, none of our directors or executive officers adopted, modified or terminated any contract, instruction or written plan for the purchase or sale of our securities that was intended to satisfy the affirmative defense conditions of Rule 10b5-1(c) or any "non-Rule 10b5-1 trading arrangement" as such term is defined in Item 408(a) of Regulation S-K, during the fiscal quarter ended June 30, 2025.

Item 6. Exhibits.

(a) Exhibits

- 10.1 [Amendment No. 1 and Joinder, dated May 6, 2025, to the Credit, Security and Guaranty Agreement, dated August 19, 2024, by and among Aspen Aerogels, Inc., Aspen Aerogels Rhode Island, LLC, Aspen Aerogels Georgia, LLC, Aspen Aerogels Mexico Holdings, LLC, MidCap Fund IV Trust and MidCap Financial Trust.](#)
- 31.1 [Certification of principal executive officer under Section 302\(a\) of the Sarbanes-Oxley Act of 2002.](#)
- 31.2 [Certification of principal financial officer under Section 302\(a\) of the Sarbanes-Oxley Act of 2002.](#)
- 32 [Certifications of the principal executive officer and the principal financial officer under Section 906 of the Sarbanes-Oxley Act of 2002.](#)
- 101.INS XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
- 101.SCH Inline XBRL Taxonomy Extension Schema With Embedded Linkbase Documents.
- 104 Cover Page Interactive Data File (embedded within the Inline XBRL document).

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.

ASPEN AEROGELS, INC.

Date: August 7, 2025

By: /s/ Donald R. Young
Donald R. Young
President and Chief Executive Officer
(principal executive officer)

Date: August 7, 2025

By: /s/ Ricardo C. Rodriguez
Ricardo C. Rodriguez
Chief Financial Officer and Treasurer
(principal financial officer)

CERTIFICATIONS UNDER SECTION 302

I, Donald R. Young, certify that:

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

Date: August 7, 2025

/s/ Donald R. Young

Donald R. Young
President and Chief Executive Officer
(principal executive officer)

CERTIFICATIONS UNDER SECTION 302

I, Ricardo C. Rodriguez, certify that:

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

Date: August 7, 2025

/s/ Ricardo C. Rodriguez

Ricardo C. Rodriguez

Chief Financial Officer and Treasurer (principal financial officer)

CERTIFICATIONS UNDER SECTION 906

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Aspen Aerogels, Inc., a Delaware corporation (the “Company”), does hereby certify, to such officer’s knowledge, that:

The Quarterly Report on Form 10-Q for the quarter ended June 30, 2025 (the “Form 10-Q”) of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 10-Q fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: August 7, 2025

/s/ Donald R. Young

Donald R. Young
President and Chief Executive Officer
(principal executive officer)

Dated: August 7, 2025

/s/ Ricardo C. Rodriguez

Ricardo C. Rodriguez
Chief Financial Officer and Treasurer
(principal financial officer)

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.
