

REFINITIV

DELTA REPORT

10-Q

FSLR - FIRST SOLAR, INC.
10-Q - JUNE 30, 2024 COMPARED TO 10-Q - MARCH 31, 2024

The following comparison report has been automatically generated

TOTAL DELTAS	1019
CHANGES	226
DELETIONS	408
ADDITIONS	385

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 **March 31, 2024** ~~June 30, 2024~~

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: 001-33156

 FSLR_Logo_2021.jpg

First Solar, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

20-4623678

(I.R.S. Employer Identification No.)

350 West Washington Street, Suite 600
Tempe, Arizona 85288

(Address of principal executive offices, including zip code)

(602) 414-9300

(Registrant's telephone number, including area code)

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

<u>Title of each class</u>	<u>Trading symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common stock, \$0.001 par value	FSLR	The NASDAQ Stock Market LLC

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

Indicate by check mark whether the registrant has submitted electronically 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, 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	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>	Non-accelerated filer	<input type="checkbox"/>
Smaller reporting company	<input type="checkbox"/>	Emerging growth company	<input type="checkbox"/>		

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 **April 26, 2024** ~~July 26, 2024~~, **107,041,420** ~~107,046,913~~ shares of the registrant's common stock, \$0.001 par value per share, were outstanding.

FIRST SOLAR, INC.

FORM 10-Q FOR THE QUARTERLY PERIOD ENDED MARCH 31, JUNE 30, 2024

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Throughout this Quarterly Report on Form 10-Q, we refer to First Solar, Inc. and its consolidated subsidiaries as "First Solar," "the Company," "we," "us," and "our." Units of electricity are typically stated in gigawatts ("GW").

PART I. FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements (Unaudited)

FIRST SOLAR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share amounts)
(Unaudited)

	Three Months Ended
	March 31,
	Three Months Ended
	March 31,
	Three Months Ended
	March 31,
	2024

2024					
		Three Months Ended		Six Months Ended	
		June 30,		June 30,	
		2024		2023	
		2024		2023	
Net sales					
Net sales					
Net sales					
Cost of sales					
Cost of sales					
Cost of sales					
Gross profit					
Gross profit					
Gross profit					
Operating expenses:					
Operating expenses:					
Operating expenses:					
Selling, general and administrative					
Selling, general and administrative					
Selling, general and administrative					
Research and development					
Research and development					
Research and development					
Production start-up					
Production start-up					
Production start-up					
Total operating expenses					
Total operating expenses					
Litigation loss					
Total operating expenses					
Gain on sales of businesses, net					
Gain on sales of businesses, net					
Gain on sales of businesses, net					
Operating income					
Operating income					
Operating income					
Foreign currency loss, net					
Foreign currency loss, net					
Foreign currency loss, net					
Interest income					
Interest income					
Interest income					
Interest expense, net					
Interest expense, net					
Interest expense, net					
Other expense, net					
Other expense, net					
Other expense, net					
Other (expense) income, net					
Income before taxes					
Income before taxes					
Income before taxes					

Income tax (expense) benefit
Income tax (expense) benefit
Income tax (expense) benefit
Net income
Net income
Income tax expense
Net income
Net income per share:
Net income per share:
Net income per share:
Basic
Basic
Basic
Diluted
Diluted
Diluted
Weighted-average number of shares used in per share calculations:
Weighted-average number of shares used in per share calculations:
Weighted-average number of shares used in per share calculations:
Basic
Basic
Basic
Diluted
Diluted
Diluted

See accompanying notes to these condensed consolidated financial statements.

FIRST SOLAR, INC.					
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME					
(In thousands)					
(Unaudited)					
	Three Months Ended		Three Months Ended		2024
	March 31,		March 31,		
	March 31,		March 31,		
	March 31,		March 31,		
	2024		2024		
	Three Months Ended		Six Months Ended		2024
	June 30,		June 30,		
	2024		2024	2023	2024
Net income					
Net income					
Net income					
Other comprehensive (loss) income:					
Other comprehensive (loss) income:					
Other comprehensive (loss) income:					
Foreign currency translation adjustments					
Foreign currency translation adjustments					

Foreign currency translation adjustments
Unrealized (loss) gain on marketable securities and restricted marketable securities, net of tax of \$102 and \$(402)
Unrealized (loss) gain on marketable securities and restricted marketable securities, net of tax of \$102 and \$(402)
Unrealized (loss) gain on marketable securities and restricted marketable securities, net of tax of \$102 and \$(402)
Unrealized gain on derivative instruments, net of tax of \$(308) and \$(708)
Unrealized gain on derivative instruments, net of tax of \$(308) and \$(708)
Unrealized gain on derivative instruments, net of tax of \$(308) and \$(708)
Other comprehensive (loss) income
Other comprehensive (loss) income
Unrealized (loss) gain on marketable securities and restricted marketable securities, net of tax of \$41, \$85, \$143 and \$(317)
Unrealized (loss) gain on derivative instruments, net of tax of \$177, \$(165), \$(131) and \$(873)
Other comprehensive (loss) income
Comprehensive income
Comprehensive income
Comprehensive income

See accompanying notes to these condensed consolidated financial statements.

<div> <div> <div>FIRST SOLAR, INC.</div> <div>CONDENSED CONSOLIDATED BALANCE SHEETS</div> <div>(In thousands, except share data)</div> <div>(Unaudited)</div> </div> </div>				
	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
ASSETS				
Current assets:				
Current assets:				
Current assets:				
Cash and cash equivalents				
Marketable securities				
Accounts receivable trade, net				
Government grants receivable, net				
Inventories				
Other current assets				
Total current assets				
Property, plant and equipment, net				
Deferred tax assets, net				
Restricted marketable securities				
Government grants receivable				
Goodwill				
Intangible assets, net				
Inventories				
Other assets				
Total assets				
LIABILITIES AND STOCKHOLDERS' EQUITY				
Current liabilities:				
Current liabilities:				
Current liabilities:				
Accounts payable				
Income taxes payable				
Accrued expenses				

Current portion of debt
Deferred revenue
Other current liabilities
Total current liabilities
Accrued solar module collection and recycling liability
Long-term debt
Deferred revenue
Other liabilities
Total liabilities
Commitments and contingencies
Commitments and contingencies
Commitments and contingencies
Stockholders' equity:
Common stock, \$0.001 par value per share; 500,000,000 shares authorized; 107,041,246 and 106,847,475 shares issued and outstanding at March 31, 2024 and December 31, 2023, respectively
Common stock, \$0.001 par value per share; 500,000,000 shares authorized; 107,041,246 and 106,847,475 shares issued and outstanding at March 31, 2024 and December 31, 2023, respectively
Common stock, \$0.001 par value per share; 500,000,000 shares authorized; 107,041,246 and 106,847,475 shares issued and outstanding at March 31, 2024 and December 31, 2023, respectively
Common stock, \$0.001 par value per share; 500,000,000 shares authorized; 107,045,972 and 106,847,475 shares issued and outstanding at June 30, 2024 and December 31, 2023, respectively
Common stock, \$0.001 par value per share; 500,000,000 shares authorized; 107,045,972 and 106,847,475 shares issued and outstanding at June 30, 2024 and December 31, 2023, respectively
Common stock, \$0.001 par value per share; 500,000,000 shares authorized; 107,045,972 and 106,847,475 shares issued and outstanding at June 30, 2024 and December 31, 2023, respectively
Additional paid-in capital
Accumulated earnings
Accumulated other comprehensive loss
Total stockholders' equity
Total liabilities and stockholders' equity

See accompanying notes to these condensed consolidated financial statements.

FIRST SOLAR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)
(Unaudited)

	Three Months Ended March 31, 2024					Three Months Ended June 30, 2024				
	Common Stock	Additional Paid-In Capital	Accumulated Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity	Common Stock	Additional Paid-In Capital	Accumulated Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance at December 31, 2023										
Balance at December 31, 2023										
Balance at December 31, 2023										
Balance at March 31, 2024										
Balance at March 31, 2024										
Balance at March 31, 2024										
Net income										
Other comprehensive loss										
Common stock issued for share-based compensation										

Tax withholding related to vesting of restricted stock										
Share-based compensation expense										
Balance at March 31, 2024										
Balance at June 30, 2024										
	Three Months Ended March 31, 2023									
	Three Months Ended March 31, 2023									
	Three Months Ended March 31, 2023									
	Three Months Ended June 30, 2023									
	Three Months Ended June 30, 2023									
	Three Months Ended June 30, 2023									
	Common Stock	Additional Paid-In Capital	Accumulated Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity	Common Stock	Additional Paid-In Capital	Accumulated Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance at December 31, 2022										
Balance at December 31, 2022										
Balance at December 31, 2022										
Balance at March 31, 2023										
Balance at March 31, 2023										
Balance at March 31, 2023										
Net income										
Other comprehensive income										
Other comprehensive loss										
Common stock issued for share-based compensation										
Tax withholding related to vesting of restricted stock										
Share-based compensation expense										
Balance at March 31, 2023										
Balance at June 30, 2023										

See accompanying notes to these condensed consolidated financial statements.

FIRST SOLAR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)
(Unaudited)

	Six Months Ended June 30, 2024					
	Common Stock		Additional Paid-In Capital	Accumulated Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2023	106,847	\$ 107	\$ 2,890,427	\$ 3,971,066	\$ (174,131)	\$ 6,687,469
Net income	—	—	—	585,972	—	585,972
Other comprehensive loss	—	—	—	—	(14,186)	(14,186)
Common stock issued for share-based compensation	322	—	—	—	—	—
Tax withholding related to vesting of restricted stock	(123)	—	(19,148)	—	—	(19,148)
Share-based compensation expense	—	—	15,290	—	—	15,290
Balance at June 30, 2024	107,046	\$ 107	\$ 2,886,569	\$ 4,557,038	\$ (188,317)	\$ 7,255,397
	Six Months Ended June 30, 2023					
	Common Stock		Additional Paid-In Capital	Accumulated Earnings	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
	Shares	Amount				

	Shares	Amount	Capital		Comprehensive Loss	
Balance at December 31, 2022	106,609	\$ 107	\$ 2,887,476	\$ 3,140,289	\$ (191,817)	\$ 5,836,055
Net income	—	—	—	213,140	—	213,140
Other comprehensive income	—	—	—	—	5,766	5,766
Common stock issued for share-based compensation	371	—	—	—	—	—
Tax withholding related to vesting of restricted stock	(149)	—	(30,247)	—	—	(30,247)
Share-based compensation expense	—	—	14,924	—	—	14,924
Balance at June 30, 2023	106,831	\$ 107	\$ 2,872,153	\$ 3,353,429	\$ (186,051)	\$ 6,039,638

See accompanying notes to these condensed consolidated financial statements.

FIRST SOLAR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Three Months Ended March 31, 2024	2024	Six Months Ended June 30, 2023	2024	2023
Cash flows from operating activities:	Cash flows from operating activities:	Cash flows from operating activities:			
Net income					
Adjustments to reconcile net income to cash provided by (used in) operating activities:					
Depreciation, amortization and accretion					
Depreciation, amortization and accretion					
Depreciation, amortization and accretion					
Share-based compensation					
Deferred income taxes					
Gain on sales of businesses, net					
Other, net					
Changes in operating assets and liabilities:					
Accounts receivable, trade					
Accounts receivable, trade					
Accounts receivable, trade					
Inventories					
Government grants receivable					
Other assets					
Income tax receivable and payable					
Accounts payable and accrued expenses					
Deferred revenue					
Other liabilities					
Net cash provided by (used in) operating activities					
Cash flows from investing activities:					
Purchases of property, plant and equipment					
Purchases of property, plant and equipment					
Purchases of property, plant and equipment					
Purchases of marketable securities and restricted marketable securities					
Proceeds from maturities of marketable securities					
Other investing activities					

Other investing activities		
Proceeds from sales and maturities of marketable securities		
Acquisitions, net of cash acquired		
Other investing activities		
Net cash used in investing activities		
Cash flows from financing activities:		
Proceeds from borrowings under debt arrangements, net of issuance costs		
Proceeds from borrowings under debt arrangements, net of issuance costs		
Proceeds from borrowings under debt arrangements, net of issuance costs		
Repayment of debt		
Payments of tax withholdings for restricted shares		
Net cash provided by financing activities		
Net cash provided by financing activities		
Net cash provided by financing activities		
Contingent consideration payment and other financing activities		
Net cash (used in) provided by financing activities		
Effect of exchange rate changes on cash, cash equivalents, restricted cash, and restricted cash equivalents		
Net decrease in cash, cash equivalents, restricted cash, and restricted cash equivalents		
Cash, cash equivalents, restricted cash, and restricted cash equivalents, beginning of the period		
Cash, cash equivalents, restricted cash, and restricted cash equivalents, end of the period		
Supplemental disclosure of noncash investing and financing activities:	Supplemental disclosure of noncash investing and financing activities:	Supplemental disclosure of noncash investing and financing activities:
Property, plant and equipment acquisitions funded by liabilities		
Proceeds to be received from asset-based government grants		
Acquisitions funded by contingent consideration		
Acquisitions funded by liabilities and contingent consideration		

See accompanying notes to these condensed consolidated financial statements.

FIRST SOLAR, INC.

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (Unaudited)

1. Basis of Presentation

The accompanying unaudited condensed consolidated financial statements of First Solar, Inc. and its subsidiaries in this Quarterly Report have been prepared in accordance with generally accepted accounting principles in the United States of America ("U.S. GAAP") for interim financial information and pursuant to the instructions to Form 10-Q and Article 10 of Regulation S-X of the Securities and Exchange Commission (the "SEC"). Accordingly, these interim financial statements do not include all of the information and footnotes required by U.S. GAAP for annual financial statements. In the opinion of First Solar management, all adjustments (consisting only of normal recurring adjustments) considered necessary for a fair statement have been included. Certain prior period balances have been reclassified to conform to the current period presentation.

The preparation of condensed consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Despite our intention to establish accurate estimates and reasonable assumptions, actual results could differ materially from such estimates and assumptions. Operating results for the three and six months ended **March 31, 2024** **June 30, 2024** are not necessarily indicative of the results that may be expected for the year ending December 31, 2024 or for any other period. The condensed consolidated balance sheet at December 31, 2023 has been derived from the audited consolidated financial statements at that date, but does not include all of the information and footnotes required by U.S. GAAP for complete financial statements. These interim financial statements and notes should be read in conjunction with the audited financial statements and notes thereto for the year ended December 31, 2023 included in our Annual Report on Form 10-K, which has been filed with the SEC.

Unless expressly stated or the context otherwise requires, the terms “the Company,” “we,” “us,” “our,” and “First Solar” refer to First Solar, Inc. and its consolidated subsidiaries, and the term “condensed consolidated financial statements” refers to the accompanying unaudited condensed consolidated financial statements contained in this Quarterly Report.

2. Cash, Cash Equivalents, and Marketable Securities

Cash, cash equivalents, and marketable securities consisted of the following at **March 31, 2024**, **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023
	June 30, 2024	December 31, 2023
Cash and cash equivalents:		
Cash		
Cash		
Cash		
Money market funds		
Total cash and cash equivalents		
Marketable securities:		
Foreign debt		
Foreign debt		
Foreign debt		
U.S. debt		
Time deposits		
Total marketable securities		
Total cash, cash equivalents, and marketable securities		

The following table provides a reconciliation of cash, cash equivalents, restricted cash, and restricted cash equivalents reported within our condensed consolidated balance sheets as of **March 31, 2024**, **June 30, 2024** and December 31, 2023 to the total of such amounts as presented in the condensed consolidated statements of cash flows (in thousands):

	Balance Sheet Line Item	Balance Sheet Line Item	March 31, 2024	December 31, 2023	Balance Sheet Line Item	June 30, 2024	December 31, 2023
Cash and cash equivalents							
Restricted cash – current							
Restricted cash – noncurrent							
Restricted cash equivalents – noncurrent							
Total cash, cash equivalents, restricted cash, and restricted cash equivalents							

During the three months ended June 30, 2024, we sold marketable securities for proceeds of \$67.5 million and realized a gain of less than \$0.1 million on such sales. During the three months ended June 30, 2023, we sold marketable securities for proceeds of \$34.9 million and realized a loss of less than \$0.1 million on such sales. See Note 8. “Fair Value Measurements” to our condensed consolidated financial statements for information about the fair value of our marketable securities.

The following tables summarize the unrealized gains and losses related to our available-for-sale marketable securities, by major security type, as of **March 31, 2024**, **June 30, 2024** and December 31, 2023 (in thousands):

	As of March 31, 2024				As of June 30, 2024						
	Amortized Cost	Amortized Cost	Unrealized Gains	Unrealized Losses	Allowance for Credit Losses	Fair Value	Amortized Cost	Unrealized Gains	Unrealized Losses	Allowance for Credit Losses	Fair Value
Foreign debt											
U.S. debt											
Time deposits											
Total											

As of December 31, 2023				
Amortized Cost	Unrealized Gains	Unrealized Losses	Allowance for Credit Losses	Fair Value

Foreign debt	\$	35,000	\$	—	\$	91	\$	14	\$	34,895
U.S. debt		45,625		88		1,614		10		44,089
Time deposits		76,533		—		—		22		76,511
Total	\$	157,158	\$	88	\$	1,705	\$	46	\$	155,495

The contractual maturities of our marketable securities as of **March 31, 2024** **June 30, 2024** were as follows (in thousands):

	Fair Value	
One Within one year or less	\$	299,587 28,913
One After one year to two through five years		4,569 4,615
Two After five years to three through ten years		—
Three years to four years		—
Four years to five years		—
More than five years		3,860 3,902
Total	\$	308,016 37,430

3. Restricted Marketable Securities

Restricted marketable securities consisted of the following as of **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Foreign government obligations				
Supranational debt				
U.S. debt				
U.S. government obligations				
Total restricted marketable securities				

Our restricted marketable securities represent long-term investments to fund the estimated future cost of collecting and recycling modules covered under our solar module collection and recycling program. We have established a trust under which funds are put into custodial accounts with an established and reputable bank, for which First Solar, Inc.; First Solar Malaysia Sdn. Bhd.; and First Solar Manufacturing GmbH are grantors. As of **March 31, 2024** **June 30, 2024** and December 31, 2023, such custodial accounts also included noncurrent restricted cash and cash equivalents balances of **\$9.0** **\$1.8** million and \$6.2 million, respectively, which were reported within "Other assets." Trust funds may be disbursed for qualified module collection and recycling costs (including capital and facility related recycling costs), payments to customers for assuming collection and recycling obligations, and reimbursements of any overfunded amounts. Investments in the trust must meet certain investment quality criteria comparable to highly rated government or agency bonds. As necessary, we fund any incremental amounts for our estimated collection and recycling obligations on an annual basis based on the estimated costs of collecting and recycling covered modules, estimated rates of return on our restricted marketable securities, and an estimated solar module life of 25 years, less amounts already funded in prior years. **During the three months ended June 30, 2024, we purchased \$7.9 million of restricted marketable securities as part of our ongoing management of the custodial accounts.**

See Note 8. "Fair Value Measurements" to our condensed consolidated financial statements for information about the fair value of our restricted marketable securities.

The following tables summarize the unrealized gains and losses related to our restricted marketable securities, by major security type, as of **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

	As of March 31, 2024					As of June 30, 2024					
	Amortized Cost	Amortized Cost	Unrealized Gains	Unrealized Losses	Allowance for Credit Losses	Fair Value	Amortized Cost	Unrealized Gains	Unrealized Losses	Allowance for Credit Losses	Fair Value
Foreign government obligations											
Supranational debt											
U.S. debt											
U.S. government obligations											
Total											

As of December 31, 2023

	Amortized Cost	Unrealized Gains	Unrealized Losses	Allowance for Credit Losses	Fair Value
Foreign government obligations	\$ 65,202	\$ —	\$ 13,963	\$ 10	\$ 51,229
Supranational debt	17,688	—	2,349	—	15,339
U.S. debt	146,484	—	33,129	29	113,326
U.S. government obligations	24,460	—	6,039	5	18,416
Total	\$ 253,834	\$ —	\$ 55,480	\$ 44	\$ 198,310

As of **March 31, 2024** **June 30, 2024**, the contractual maturities of these securities were between 7 years and 15 years.

4. Consolidated Balance Sheet Details

Accounts receivable trade, net

Accounts receivable trade, net consisted of the following at **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Accounts receivable trade, gross				
Allowance for credit losses				
Accounts receivable trade, net				

Inventories

Inventories consisted of the following at **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Raw materials				
Work in process				
Finished goods				
Inventories				
Inventories – current				
Inventories – noncurrent				

Other current assets

Other current assets consisted of the following at **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Spare maintenance materials and parts				
Indirect tax receivables				
Prepaid expenses				
Operating supplies				
Prepaid income taxes				
Insurance receivable for accrued litigation (1)				
Restricted cash				
Prepaid income taxes				
Derivative instruments (2)				
Other				
Other current assets				

- (1) See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for discussion of our legal proceedings.
- (2) See Note 6. "Derivative Financial Instruments" to our condensed consolidated financial statements for discussion of our derivative instruments.

Property, plant and equipment, net

Property, plant and equipment, net consisted of the following at March 31, 2024, June 30, 2024 and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Land				
Buildings and improvements				
Machinery and equipment				
Office equipment and furniture				
Leasehold improvements				
Construction in progress				
Property, plant and equipment, gross				
Accumulated depreciation				
Property, plant and equipment, net				

Depreciation of property, plant and equipment was \$86.7 million, \$93.4 million and \$65.9 million, \$180.1 million for the three and six months ended March 31, 2024, June 30, 2024, respectively, and 2023, \$76.9 million and \$142.8 million for the three and six months ended June 30, 2023, respectively.

Other assets

Other assets consisted of the following at March 31, 2024, June 30, 2024 and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Advance payments for raw materials				
Lease assets (1)				
Income tax receivables				
Prepaid expenses				
Project assets				
Prepaid expenses				
Restricted cash				
Restricted cash equivalents				
Restricted cash				
Other (2)				
Other assets				

- (1) See Note 7. "Leases" to our condensed consolidated financial statements for discussion of our lease arrangements.
- (2) In November 2023, First Solar entered into a power purchase agreement with Cleantech Solar ("Cleantech"), a leading provider of renewable energy solutions in India and Southeast Asia. Under the agreement, Cleantech plans to construct certain photovoltaic ("PV") solar and wind generating assets, which are expected to supply electricity to our manufacturing facility in India.

In February 2024, we purchased an ownership interest in a subsidiary of Cleantech for \$3.0 million. This subsidiary owns certain of the generation assets that are expected to supply our facility, and we account for our investment in the subsidiary under the equity method of accounting.

During the three six months ended March 31, 2024, June 30, 2024, we received advance payments, recognized revenue of \$21.4 million from this subsidiary, \$19.0 million for future module sales and recognized \$6.1 million of revenue therefrom on module sales of 24 megawatts, 75 megawatts to this subsidiary.

Accrued expenses

Accrued expenses consisted of the following at **March 31, 2024**, **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Accrued property, plant and equipment				
Accrued freight				
Accrued inventory				
Accrued other taxes				
Accrued compensation and benefits				
Accrued interest				
Product warranty liability (1)				
Accrued interest				
Other				
Accrued expenses				

(1) See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for discussion of our "Product Warranties."

Other current liabilities

Other current liabilities consisted of the following at **March 31, 2024**, **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Accrued litigation (1)				
Lease liabilities (2)				
Contingent consideration (3)				
Derivative instruments (4)				
Derivative instruments (3)				
Contingent consideration (4)				
Other				
Other current liabilities				

(1) See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for discussion of our legal proceedings.

(2) See Note 7. "Leases" to our condensed consolidated financial statements for discussion of our lease arrangements.

(3) See Note 6. "Derivative Financial Instruments" to our condensed consolidated financial statements for discussion of our derivative instruments.

(4) See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for discussion of our contingent consideration arrangements.

(4) See Note 6. "Derivative Financial Instruments" to our condensed consolidated financial statements for discussion of our derivative instruments.

Other liabilities

Other liabilities consisted of the following at **March 31, 2024**, **June 30, 2024** and December 31, 2023 (in thousands):

	March 31, 2024	December 31, 2023	June 30, 2024	December 31, 2023
Lease liabilities (1)				
Deferred tax liabilities, net				
Other taxes payable				
Product warranty liability (2)				
Contingent consideration (3)				

Other

Other liabilities

- (1) See Note 7. "Leases" to our condensed consolidated financial statements for discussion of our lease arrangements.
- (2) See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for discussion of our "Product Warranties."
- (3) See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for discussion of our contingent consideration arrangements.

5. Government Grants

Government grants represent benefits provided by federal, state, or local governments that are not subject to the scope of Accounting Standards Codification ("ASC") 740. We recognize a grant when we have reasonable assurance that we will comply with the grant's conditions and that the grant will be received. Government grants whose primary condition is the purchase, construction, or acquisition of a long-lived asset are considered asset-based grants and are recognized as a reduction to such asset's cost-basis, which reduces future depreciation. Other government grants not related to long-lived assets are considered income-based grants, which are recognized as a reduction to the related cost of activities that generated the benefit.

The following table presents the benefits recognized from asset-based government grants in our condensed consolidated balance sheets as of **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

Balance Sheet Line Item	Balance Sheet Line Item	March 31, 2024	December 31, 2023	Balance Sheet Line Item	June 30, 2024	December 31, 2023
Property, plant and equipment, net						
Other assets						

In February 2021, the state government of Tamil Nadu, India granted First Solar certain incentives associated with the construction of our first manufacturing facility in the country. Among other things, such incentives provide a 24% subsidy for eligible capital investments, contingent upon meeting certain minimum investment and employment commitments. The capital subsidy funding application process begins in the fiscal year following the initial period of module production and is expected to be paid in six annual installments thereafter. The timing of cash receipts is subject to the completion of audit certifications, funding applications by First Solar, and review by state government authorities. Module production in India began during the year ended December 31, 2023. We expect to submit initial funding applications in the second half of 2024. Such credit is reflected on our condensed consolidated balance sheets within "Government grants receivable."

The following table presents the benefits recognized from income-based government grants in our condensed consolidated statements of operations for the three **and six** months ended **March 31, 2024** **June 30, 2024** and 2023 (in thousands):

		Three Months Ended March 31,		Three Months Ended March 31,		Three Months Ended March 31,	
Income Statement Line Item	Income Statement Line Item						
Income Statement Line Item	Income Statement Line Item	Three Months Ended June 30,		Six Months Ended June 30,			
Income Statement Line Item	Income Statement Line Item	2024	2023	2024	2023		
Cost of sales							
Cost of sales							
Cost of sales							
Research and development							
Research and development							
Research and development							

In August 2022, the U.S. President signed into law the Inflation Reduction Act of 2022 ("IRA"). Among other things, the IRA offers a tax credit, pursuant to Section 45X of the Internal Revenue Code ("IRC"), for solar modules and solar module components manufactured in the United States and sold to third parties. Such credit may be refundable by the Internal Revenue Service ("IRS") or transferable to a third party and is available from 2023 to 2032, subject to phase down beginning in 2030. For eligible components, the credit is equal to (i) \$12 per square meter for a PV wafer, (ii) 4 cents multiplied by the capacity of a PV cell, and (iii) 7 cents multiplied by the capacity of a PV module. Based on the current form

factor of our modules, we expect to qualify for a credit of approximately 17 cents per watt for each module produced in the United States and sold to a third party. We recognize such credit as a reduction to "Cost of sales" in the period the modules are sold to customers. Such credit is also reflected on our condensed consolidated balance sheets within "Government grants receivable."

In December 2023, we entered into an agreement with Fiserv, Inc. ("Fiserv") for the sale of \$687.2 million of Section 45X tax credits we generated during 2023 for aggregate cash proceeds of \$659.7 million. We received initial the full cash proceeds of \$480.0 million during the three six months ended March 31, 2024 and received the remaining cash proceeds of \$179.7 million in April 2024. June 30, 2024.

6. Derivative Financial Instruments

As a global company, we are exposed in the normal course of business to various risks, including foreign currency and commodity price risks, that could affect our financial position, results of operations, and cash flows. We may use derivative instruments to hedge against these risks and only hold such instruments for hedging purposes, not for speculative or trading purposes.

Depending on the terms of the specific derivative instruments and market conditions, some of our derivative instruments may be assets and others liabilities at any particular balance sheet date. We report all of our derivative instruments at fair value and account for changes in the fair value of derivative instruments within "Accumulated other comprehensive loss" if the derivative instruments qualify for hedge accounting. For those derivative instruments that do not qualify for hedge accounting (i.e., "economic hedges"), we record the changes in fair value directly to earnings. See Note 8. "Fair Value Measurements" to our condensed consolidated financial statements for information about the techniques we use to measure the fair value of our derivative instruments.

The following tables present the fair values of derivative instruments included in our condensed consolidated balance sheets as of March 31, 2024 June 30, 2024 and December 31, 2023 (in thousands):

	March 31, 2024	June 30, 2024
Other Current Assets		
Derivatives designated as hedging instruments:		
Derivatives designated as hedging instruments:		
Derivatives designated as hedging instruments:		
Commodity swap contracts		
Commodity swap contracts		
Commodity swap contracts		
Total derivatives designated as hedging instruments		
Total derivatives designated as hedging instruments		
Total derivatives designated as hedging instruments		
Derivatives not designated as hedging instruments:		
Derivatives not designated as hedging instruments:		
Derivatives not designated as hedging instruments:		
Foreign exchange forward contracts		
Foreign exchange forward contracts		
Foreign exchange forward contracts		
Total derivatives not designated as hedging instruments		
Total derivatives not designated as hedging instruments		
Total derivatives not designated as hedging instruments		
Total derivative instruments		
Total derivative instruments		
Total derivative instruments		

	December 31, 2023	
	Other Current Assets	Other Current Liabilities
Derivatives designated as hedging instruments:		
Commodity swap contracts	\$ —	\$ 344
Total derivatives designated as hedging instruments	\$ —	\$ 344
Derivatives not designated as hedging instruments:		

Foreign exchange forward contracts	\$	1,778	\$	1,400
Total derivatives not designated as hedging instruments	\$	1,778	\$	1,400
Total derivative instruments	\$	1,778	\$	1,744

The following table presents the pretax amounts related to derivative instruments designated as cash flow hedges affecting accumulated other comprehensive income (loss) and our condensed consolidated statements of operations for the **three** six months ended **March 31, 2024** **June 30, 2024** and 2023 (in thousands):

	Commodity Swap Contracts	
Balance as of December 31, 2023	\$	(1,493)
Amounts recognized in other comprehensive income (loss)		221 (873)
Amount reclassified to cost of sales		1,149 1,495
Balance as of March 31, 2024 June 30, 2024	\$	(123) (871)
Balance as of December 31, 2022	\$	(7,242)
Amounts recognized in other comprehensive income (loss)		254 (984)
Amount reclassified to cost of sales		2,668 4,665
Balance as of March 31, 2023 June 30, 2023	\$	(4,320) (3,561)

The following table presents the effect of derivative instruments not designated as hedges on our condensed consolidated statements of operations for the three **and six** months ended **March 31, 2024** **June 30, 2024** and 2023 (in thousands):

ended March 31, 2024, June 30, 2024 and 2023 (in thousands).									
				Amount of Loss Recognized in Income					
				Amount of Loss Recognized in Income					
				Amount of Loss Recognized in Income					
				Three Months Ended March 31,					
Income Statement Line Item									
Income Statement Line Item									
						Amount of Loss Recognized in Income Statement			
						Three Months Ended June 30,		Six Months Ended June 30,	
Income Statement Line Item		Income Statement Line Item				2024		2023	
Foreign exchange forward contracts									
Foreign exchange forward contracts									
Foreign exchange forward contracts									

Foreign Currency Risk

Transaction Exposure and Economic Hedging

Many of our subsidiaries have assets and liabilities (primarily cash, receivables, deferred taxes, payables, accrued expenses, lease liabilities, debt, and solar module collection and recycling liabilities) that are denominated in currencies other than the subsidiaries' functional currencies. Changes in the exchange rates between the functional currencies of our subsidiaries and the other currencies in which these assets and liabilities are denominated will create fluctuations in our reported condensed consolidated statements of operations. We may enter into foreign exchange forward contracts or other financial instruments to economically hedge assets and liabilities against the effects of currency exchange rate fluctuations. The gains and losses on such foreign exchange forward contracts will economically offset all or part of the transaction gains and losses that we recognize in earnings on the related foreign currency denominated assets and liabilities.

We also enter into foreign exchange forward contracts to economically hedge balance sheet and other exposures related to transactions between certain of our subsidiaries and transactions with third parties. Such contracts are considered economic hedges and do not qualify for hedge accounting. Accordingly, we recognize gains or losses from the fluctuations in foreign exchange rates and the fair value of these derivative contracts in "Foreign currency loss, net" on our condensed consolidated statements of operations.

As of **March 31, 2024** **June 30, 2024** and December 31, 2023, the notional values of our foreign exchange forward contracts that do not qualify for hedge accounting were as follows (notional amounts and U.S. dollar equivalents in millions):

Transaction	March 31, June 30, 2024		
	Currency	Notional Amount	USD Equivalent
Sell	Canadian dollar	CAD 4.2	\$3.1
Purchase	Euro	€162.7 148.1	\$175.5 158.5
Sell	Euro	€26.8 15.7	\$28.9 16.8
Purchase	Indian rupee	INR 7,710.0	\$92.4
Sell	Indian rupee	INR 72,554.5	\$869.9
Sell	Indian rupee	INR 67,848.1	\$814.0
Purchase	Japanese yen	¥1,340.0 563.6	\$8.9
Sell	Japanese yen	¥1,272.6	\$8.4 3.5
Purchase	Malaysian ringgit	MYR 219.0 186.0	\$46.3 39.4
Sell	Malaysian ringgit	MYR 62.5 12.4	\$13.2 2.6
Sell	Mexican peso	MXN 34.6	\$2.1 1.9
Purchase	Singapore dollar	SGD 25.8	\$19.1 19.0
Sell	Singapore dollar	SGD 18.8	\$13.9

Transaction	December 31, 2023		
	Currency	Notional Amount	USD Equivalent
Sell	Canadian dollar	CAD 4.2	\$3.2
Sell	Chilean peso	CLP 1,372.6	\$1.6
Purchase	Euro	€98.3	\$108.7
Sell	Euro	€14.1	\$15.6
Sell	Indian rupee	INR 62,967.4	\$756.9
Purchase	Japanese yen	¥1,053.6	\$7.5
Sell	Japanese yen	¥705.2	\$5.0
Purchase	Malaysian ringgit	MYR 160.7	\$35.0
Sell	Mexican peso	MXN 34.6	\$2.0
Purchase	Singapore dollar	SGD 6.5	\$4.9

Commodity Price Risk

From time to time, we use commodity swap contracts to mitigate our exposure to commodity price fluctuations for certain raw materials used in the production of our modules. During the year ended December 31, 2022, we entered into various commodity swap contracts to hedge a portion of our forecasted cash flows for purchases of aluminum frames between July 2022 and December 2023. Such swaps had an aggregate initial notional value based on metric tons of forecasted aluminum purchases, equivalent to \$70.5 million, and entitled us to receive a three-month average London Metals Exchange price for aluminum while requiring us to pay certain fixed prices. The notional amount of the commodity swap contracts proportionately adjusted with forecasted purchases of aluminum frames.

During the **three six** months ended **March 31, 2024** **June 30, 2024**, we entered into various commodity swap contracts to hedge a portion of our forecasted cash flows for purchases of steel between April 2024 and December 2024. Such swaps had an aggregate initial notional value based on short tons of forecasted steel purchases, equivalent to \$7.6 million, and entitle us to receive the price based on the U.S. Midwest Hot-Rolled Coil Steel Index while requiring us to pay certain fixed prices. The notional amount of the commodity swap contracts proportionately adjusts with forecasted purchases of steel. As of **March 31, 2024** **June 30, 2024**, the notional value associated with these contracts was **\$5.9** **\$3.2** million.

These commodity swap contracts qualify for accounting as cash flow hedges in accordance with ASC 815, and we designated them as such. We report unrealized gains or losses on such contracts in "Accumulated other comprehensive loss" and subsequently reclassify applicable amounts into earnings when the hedged transactions occur and impact earnings. We determined that these derivative financial instruments were highly effective as cash flow hedges as of **March 31, 2024** **June 30, 2024** and December 31, 2023. In the following 12 months, we expect to reclassify into earnings **\$0.1 million** **\$0.9 million** of net unrealized losses related to these commodity swap contracts that are included in "Accumulated other comprehensive loss" at **March 31, 2024** **June 30, 2024** as we realize the earnings effects of the related forecasted transactions.

7. Leases

Our lease arrangements include land associated with our corporate and administrative offices, land for our manufacturing facilities, and certain of our manufacturing equipment. Such leases primarily relate to assets located in the United States, Malaysia, India, and Vietnam.

The following table presents certain quantitative information related to our lease arrangements for the three and six months ended **March 31, 2024** **June 30, 2024** and 2023, and as of **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

		Three Months Ended		March 31,	
		Three Months Ended	Six Months Ended	June 30,	June 30,
		June 30,	June 30,	2024	2023
		2024	2024	2024	2023
Finance					
lease cost:					
Amortization of right-of-use assets					
Amortization of right-of-use assets					
Amortization of right-of-use assets			\$ 116	\$ —	\$120
Interest on lease liabilities	Interest on lease liabilities	230		—	254
Operating lease cost	Operating lease cost	3,221		2,937	3,228
Variable lease cost	Variable lease cost	709		895	723
Short-term lease cost	Short-term lease cost	184		70	294
Total lease cost	Total lease cost	\$4,460		\$3,902	\$ 4,619
Payments of amounts included in the measurement of:					
Payments of amounts included in the measurement of:					
Payments of amounts included in the measurement of:					
Cash paid for amounts included in the measurement of:					
Cash paid for amounts included in the measurement of:					
Cash paid for amounts included in the measurement of:					
Operating lease liabilities					
Operating lease liabilities					
Operating lease liabilities			\$3,001	\$2,753	

As of **March 31, 2024** and **June 30, 2024**, the future payments associated with our lease liabilities were as follows (in thousands):

	Operating Leases	Operating Leases	Finance Leases	Operating Leases	Finance Leases
Remainder of 2024					
2025					
2026					
2027					
2028					
2029					

Thereafter
Total future payments
Less: interest
Total lease liabilities

8. Fair Value Measurements

The following is a description of the valuation techniques that we use to measure the fair value of assets and liabilities that we measure and report at fair value on a recurring basis:

- Cash Equivalents and Restricted Cash Equivalents.* At **March 31, 2024** **June 30, 2024** and December 31, 2023, our cash equivalents and restricted cash equivalents consisted of money market funds. We value our cash equivalents and restricted cash equivalents using observable inputs that reflect quoted prices for securities with identical characteristics and classify the valuation techniques that use these inputs as Level 1.
- Marketable Securities and Restricted Marketable Securities.* At **March 31, 2024** **June 30, 2024** and December 31, 2023, our marketable securities consisted of foreign debt, U.S. debt, and time deposits, and our restricted marketable securities consisted of foreign and U.S. government obligations, supranational debt, and U.S. debt. We value our marketable securities and restricted marketable securities using observable inputs that reflect quoted prices for securities with identical characteristics or quoted prices for securities with similar characteristics and other observable inputs (such as interest rates that are observable at commonly quoted intervals). Accordingly, we classify the valuation techniques that use these inputs as either Level 1 or Level 2 depending on the inputs used. We also consider the effect of our counterparties' credit standing in these fair value measurements.
- Derivative Assets and Liabilities.* At **March 31, 2024** **June 30, 2024** and December 31, 2023, our derivative assets and liabilities consisted of foreign exchange forward contracts involving major currencies and commodity swap contracts involving major commodity prices. Since our derivative assets and liabilities are not traded on an exchange, we value them using standard industry valuation models. As applicable, these models project future cash flows and discount the amounts to a present value using market-based observable inputs, including credit risk, foreign exchange rates, forward and spot prices for currencies, and forward prices for commodities. These inputs are observable in active markets over the contract term of the derivative instruments we hold, and accordingly, we classify the valuation techniques as Level 2. In evaluating credit risk, we consider the effect of our counterparties' and our own credit standing in the fair value measurements of our derivative assets and liabilities, respectively.

At March 31, 2024 June 30, 2024 and December 31, 2023, the fair value measurements of our assets and liabilities measured on a recurring basis were as follows (in thousands):									
		Fair Value Measurements at Reporting					Fair Value Measurements at Reporting		
		Date Using					Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	June 30, 2024	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	
March 31, 2024									
Assets:									
Cash equivalents:									
Cash equivalents:									
Cash equivalents:									
Money market funds									
Money market funds									
Money market funds									
Restricted cash equivalents:									
Money market funds									
Money market funds									
Money market funds									
Marketable securities:									
Foreign debt									

Foreign debt
Foreign debt
U.S. debt
U.S. debt
U.S. debt
Time deposits
Restricted marketable securities
Derivative assets
Total assets
Liabilities:
Derivative liabilities
Derivative liabilities
Derivative liabilities

Fair Value Measurements at Reporting Date Using				
	December 31, 2023	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Cash equivalents:				
Money market funds	\$ 1,105,684	\$ 1,105,684	\$ —	\$ —
Restricted cash equivalents:				
Money market funds	6,192	6,192	—	—
Marketable securities:				
Foreign debt	34,895	—	34,895	—
U.S. debt	44,089	—	44,089	—
Time deposits	76,511	76,511	—	—
Restricted marketable securities	198,310	—	198,310	—
Derivative assets	1,778	—	1,778	—
Total assets	<u>\$ 1,467,459</u>	<u>\$ 1,188,387</u>	<u>\$ 279,072</u>	<u>\$ —</u>
Liabilities:				
Derivative liabilities	<u>\$ 1,744</u>	<u>\$ —</u>	<u>\$ 1,744</u>	<u>\$ —</u>

Fair Value of Financial Instruments

At **March 31, 2024** **June 30, 2024** and December 31, 2023, the carrying values and fair values of our financial instruments not measured at fair value were as follows (in thousands):

As of March 31, 2024, June 30, 2024, and December 31, 2023, the carrying values and fair values of our financial instruments not measured at fair value were as follows (in thousands):											
		March 31, 2024		December 31, 2023			June 30, 2024	December 31, 2023			
		Carrying Value	Fair Value	Carrying Value		Fair Value	Carrying Value		Fair Value	Carrying Value	Fair Value
Assets:	Assets:				Assets:						
Government grants receivable - noncurrent											
Liabilities:											
Long-term debt (1)											
Long-term debt (1)											
Long-term debt (1)											

Long-term debt, including current maturities (1)
Long-term debt, including current maturities (1)
Long-term debt, including current maturities (1)

(1) Excludes unamortized issuance costs and debt arrangements with an original maturity of less than one year.

The carrying values in our condensed consolidated balance sheets of our current trade accounts receivable, restricted cash, current government grants receivable, accounts payable, accrued expenses, and debt arrangements with an original maturity of less than one year approximated their fair values due to their nature and relatively short maturities; therefore, we excluded them from the foregoing table. The fair value measurements for our noncurrent government grants receivable and long-term debt are considered Level 2 measurements under the fair value hierarchy.

Credit Risk

We have certain financial and derivative instruments that subject us to credit risk. These consist primarily of cash, cash equivalents, marketable securities, accounts receivable, restricted cash, restricted cash equivalents, restricted marketable securities, foreign exchange forward contracts, and commodity swap contracts. We are exposed to credit losses in the event of nonperformance by the counterparties to our financial and derivative instruments. We place these instruments with various high-quality financial institutions and limit the amount of credit risk from any one counterparty. We monitor the credit standing of our counterparty financial institutions. Our net sales are primarily concentrated among a limited number of customers. We monitor the financial condition of our customers and perform credit evaluations whenever considered necessary. We typically require some form of payment security from our customers, including, but not limited to, advance payments, parent guarantees, letters of credit, bank guarantees, or surety bonds.

9. Debt

Our debt arrangements consisted of the following at March 31, 2024June 30, 2024 and December 31, 2023 (in thousands):

Loan Agreement	Loan Agreement	Currency	Balance (USD)		Loan Agreement	Currency	Balance (USD)	
			March 31, 2024	December 31, 2023			June 30, 2024	December 31, 2023
Revolving Credit Facility								
India Credit Facility								
India JPM Working Capital Facility								
India HSBC Working Capital Facility								
Total debt principal								
Less: unamortized issuance costs								
Total debt								
Less: current portion								
Noncurrent portion								

Revolving Credit Facility

In June 2023, we entered into a credit agreement with several financial institutions as lenders and JPMorgan Chase Bank, N.A. as administrative agent, which provides us with a senior secured credit facility (the "Revolving Credit Facility") with an aggregate borrowing capacity of \$1.0 billion. BorrowingsBorrowing under the Revolving Credit Facility bear bears interest at a rate per annum equal to, at our option, (i) the Term Secured Overnight Financing Rate ("Term SOFR"), plus a credit spread of 0.10%, plus a margin that ranges from 1.25% to 2.25% or (ii) an alternate base rate as defined in the credit agreement, plus a margin that ranges from 0.25% to 1.25%. The margins under the Revolving Credit Facility are based on the Company's net leverage ratio or, if the Company elects to switch to a credit ratings-based system after the investment grade ratings trigger date occurs (as defined in the credit agreement), the Company's public debt rating.

In addition to paying interest on outstanding principal under the Revolving Credit Facility, we are required to pay an unused commitment fee that ranges from 0.125% to 0.375% per annum based on the same factors discussed above and the daily unused commitments under the facility. We are also required to pay (i) a letter of credit fee based on the applicable margin for Term SOFR loans on the face amount of each letter of credit, (ii) a letter of credit fronting fee as agreed by the Company and such issuing lender, and (iii) other customary letter of credit fees. Our Revolving Credit Facility matures in June 2028.

As of March 31, 2024June 30, 2024 and December 31, 2023, we had no borrowingsoutstanding debt or letters of credit under our Revolving Credit Facility. Loans and letters of credit issued under the Revolving Credit Facility are secured by liens on substantially all of the Company's tangible and intangible assets.

India Credit Facility

In July 2022, FS India Solar Ventures Private Limited ("FSISV"), our indirect wholly-owned subsidiary, entered into a finance agreement (the "India Credit Facility") with the U.S. International Development Finance Corporation for aggregate borrowingsborrowing of up to \$500.0 million for the development and construction of a solar module manufacturing

facility in India. Principal on the India Credit Facility is payable in scheduled semi-annual installments beginning in the second half of 2024 through the facility's expected maturity in August 2029. The India Credit Facility is guaranteed by First Solar, Inc.

India JPM Working Capital Facility

In December 2022, FSISV entered into a working capital facility agreement (the "India JPM Working Capital Facility") with JPMorgan Chase Bank, N.A. for the issuance of bank guarantees, bonds, and other similar forms of security. During 2023, the India JPM Working Capital Facility was amended to include certain working capital loans of up to INR 6.2 billion (\$74.8 million). The outstanding balance matures during the second and third quarters of 2024. The India JPM Working Capital Facility is guaranteed by First Solar, Inc. As of June 30, 2024, there was no balance outstanding on the India JPM Working Capital Facility.

India HSBC Working Capital Facility

In February 2024, FSISV entered into a working capital facility agreement (the "India HSBC Working Capital Facility") with the Hongkong and Shanghai Banking Corporation Limited, which provides certain working capital loans of up to INR 8.2 billion (\$98.4 million). The outstanding balance matures in the third quarter of 2024. The India HSBC Working Capital Facility is guaranteed by First Solar, Inc.

Interest Rates

As of March 31, 2024 June 30, 2024, the borrowing rates for our outstanding debt arrangements were as follows:

Loan Agreement	Interest Rate Description	Interest Rate
India Credit Facility	U.S. Treasury Constant Maturity Yield plus 1.75%	5.57%
India JPM HSBC Working Capital Facility (1)	India Treasury bill rate plus 2%	9.08%
India HSBC Working Capital Facility (1)	India Treasury bill rate plus 1.5% to 1.6%	8.44% 8.36%

(1) The weighted-average interest rate for our outstanding short-term debt arrangements was 8.76% 8.36% as of March 31, 2024 June 30, 2024.

Future Principal Payments

At March 31, 2024, the future principal payments on our debt arrangements were due as follows (in thousands):

	Total Debt
Remainder of 2024	\$ 155,540
2025	90,900
2026	90,900
2027	90,950
2028	91,000
2029	100,800
Thereafter	—
Total debt future principal payments	\$ 620,090

10. Commitments and Contingencies

Commercial Commitments

During the normal course of business, we enter into commercial commitments in the form of letters of credit and surety bonds to provide financial and performance assurance to third parties. As of March 31, 2024 June 30, 2024, the issued and outstanding amounts and available capacities under these commitments were as follows (in millions):

	Issued and Outstanding	Issued and Outstanding	Available Capacity	Issued and Outstanding	Available Capacity
Revolving Credit Facility (1)					
Bilateral facilities (2)					
Surety bonds					

(1) Our Revolving Credit Facility provides us with a sub-limit of \$250.0 million to issue letters of credit, at a fee based on the applicable margin for Term SOFR loans, a fronting fee, and other customary letter of credit fees.

(2) Of the total letters of credit issued under the bilateral facilities, \$9.2 million was secured with cash.

Product Warranties

When we recognize revenue for sales of modules, we accrue liabilities for the estimated future costs of meeting our limited warranty obligations. We estimate our limited product warranty liability for power output and defects in materials and workmanship under normal use and service conditions based on return rates for each series of module technology. We make and revise these estimates based primarily on the number of solar modules under warranty installed at customer locations, our historical experience with and projections of warranty claims, and our estimated per-module replacement costs. We also monitor our expected future module performance through certain quality and reliability testing and actual performance in certain field installation sites. From time to time, we have taken remediation actions with respect to affected modules beyond our limited warranties and may elect to do so in the future, in which case we would incur additional expenses. Such potential voluntary future remediation actions beyond our limited warranty obligations may be material to our condensed consolidated statements of operations if we commit to any such remediation actions.

Product warranty activities during the three and six months ended March 31, 2024 June 30, 2024 and 2023 were as follows (in thousands):

	Three Months Ended March 31,		Three Months Ended March 31,		Three Months Ended March 31,	
	Three Months Ended June 30,		Six Months Ended June 30,			
	2024	2023	2024	2023		
Product warranty liability, beginning of period						
Product warranty liability, beginning of period						
Product warranty liability, beginning of period						
Accruals for new warranties issued						
Accruals for new warranties issued						
Accruals for new warranties issued						
Settlements						
Settlements						
Settlements						
Changes in estimate of product warranty liability						
Changes in estimate of product warranty liability						
Changes in estimate of product warranty liability						
Product warranty liability, end of period						
Product warranty liability, end of period						
Product warranty liability, end of period						
Current portion of warranty liability						
Current portion of warranty liability						
Current portion of warranty liability						
Noncurrent portion of warranty liability						
Noncurrent portion of warranty liability						
Noncurrent portion of warranty liability						

Indemnifications

In certain limited circumstances, we have provided indemnifications to customers or other parties under which we are contractually obligated to compensate such parties for losses they suffer resulting from a breach of a representation, warranty, or covenant; the resolution of specific matters associated with a project's development or construction; guarantees of a third party's payment or performance obligations; or any disallowance or lack of the right to claim all or any portion of certain tax credits. For contracts that have such indemnification provisions, we initially recognize a liability under ASC 460 for the estimated premium that would be required by a guarantor to issue the same indemnity in a standalone arm's-length transaction with an unrelated party. We may base these estimates on the cost of insurance or other instruments that cover the underlying risks being indemnified and may purchase such instruments to mitigate our exposure to potential indemnification payments. We subsequently measure such liabilities at the greater of the

initially estimated premium or the contingent liability required to be recognized under ASC 450. We recognize any indemnification liabilities as a reduction of earnings associated with the related transaction.

After an indemnification liability is recorded, we derecognize such amount pursuant to ASC 460 depending on the nature of the indemnity, which derecognition typically occurs upon expiration or settlement of the arrangement, and any contingent aspects of the indemnity are accounted for in accordance with ASC 450. As of March 31, 2024 June 30, 2024 and December 31, 2023, we accrued \$2.5 million and \$3.3 million of current indemnification liabilities, respectively. As of March 31, 2024 June 30, 2024, the maximum potential amount of future payments under our indemnifications was \$510.1 \$688.8 million.

Contingent Consideration

As part of our acquisition of Evolar AB ("Evolar") in May 2023, we agreed to pay additional consideration of up to \$42.5 million to the selling shareholders contingent upon the successful achievement of certain technical milestones. As of March 31, 2024 and December 31, 2023, we recorded \$7.5 million of current liabilities and \$11.0 million of long-term liabilities for such contingent obligations based on their estimated fair values. During the three months ended June 30, 2024, we paid \$7.5 million of contingent consideration to the selling shareholders, and \$11.0 million remains in our long-term liabilities as of June 30, 2024.

Solar Module Collection and Recycling Liability

We previously established a module collection and recycling program, which has since been discontinued, to collect and recycle modules sold and covered under such program once the modules reach the end of their service lives. For legacy customer sales contracts that are covered under this program, we agreed to pay the costs for the collection and recycling of qualifying solar modules, and the end-users agreed to notify us, disassemble their solar power systems, package the solar modules for shipment, and revert ownership rights over the modules back to us at the end of the modules' service lives. Accordingly, we recorded any collection and recycling obligations within "Cost of sales" at the time of sale based on the estimated cost to collect and recycle the covered solar modules.

We estimate the cost of our collection and recycling obligations based on the present value of the expected future cost of collecting and recycling the solar modules, which includes estimates for the cost of packaging materials; the cost of freight from the solar module installation sites to a recycling center; material, labor, and capital costs; and by-product credits for certain materials recovered during the recycling process. We base these estimates on our experience collecting and recycling solar modules and certain assumptions regarding costs at the time the solar modules will be collected and recycled. In the periods between the time of sale and the related settlement of the collection and recycling obligation, we accrete the carrying amount of the associated liability and classify the corresponding expense within "Selling, general and administrative" expense on our condensed consolidated statements of operations.

Our module collection and recycling liability was \$134.3 million \$134.8 million and \$135.1 million as of March 31, 2024 June 30, 2024 and December 31, 2023, respectively. See Note 3, "Restricted Marketable Securities" to our condensed consolidated financial statements for more information about our arrangements for funding this liability.

Legal Proceedings

In July 2021, Southern Power Company and certain of its affiliates ("Southern") filed an arbitration demand with the American Arbitration Association against two subsidiaries of the Company, alleging breach of the engineering, procurement, and construction ("EPC") agreements for five projects in the United States, for which the Company's subsidiaries served as the EPC contractor. The arbitration demand asserts breach of obligations to design and engineer the projects in accordance with the EPC agreements, particularly as such obligations relate to the procurement of tracker systems and inverters. The Company and its subsidiaries denied the claims, and defended the claims in arbitration hearings, which concluded in February 2023. In May 2023, the parties submitted their final proposals of individual award claims to the arbitration panel. In July 2023, the arbitration panel entered an interim award to Southern for \$35.6 million, which was paid during the year ended December 31, 2023. As a result, we recognized a loss for such interim award in our results of operations for the year ended December 31, 2023. The final arbitration award, which did not change the results of the interim award, was signed on November 6, 2023. On February 2, 2024, First Solar commenced an action in the New York County Supreme Court seeking to vacate certain aspects of the final award. As of April 29, 2024 On May 6, 2024, the petition such action was denied. First Solar has been fully briefed, elected not to appeal, and we are awaiting a decision from the court. considers this matter closed.

During the year ended December 31, 2022, we received several indemnification demands from certain customers, for whom we provided EPC services, regarding claims that such customers' PV tracker systems infringe, in part, on patents owned by Rovshan Sade ("Sade" Plaintiff), the owner of a company called Trabant Solar, Inc. In January 2023, we were notified by two of our customers that Sade Plaintiff served them with patent infringement complaints, and we have assumed the defense of these claims. We have conducted due diligence on the patents and claims and believe that we will prevail in the actions. In April 2023, we commenced an Inter Partes Review ("IPR") before the United States Patent and Trademark Office seeking to invalidate such claims. On November 16, 2023, In November 2023, the United States Patent Trial and Appeal Board declined to hear the First Solar IPR. As in July 2024, Plaintiff's counsel filed a result, motion seeking to withdraw as counsel. The court granted the stays in the court actions have been lifted motion and the litigation will proceed. On March 25, 2024, issued a 45-day stay of all proceedings while Plaintiff seeks new case management order was entered, aligning the schedules for representation. Because all of the Sade cases. Substantive case discovery has not yet commenced. Because we remain in early stages of the litigation, been stayed until September 24, 2024, at this time we are not in a position to assess the likelihood of any potential loss or adverse effect on our financial condition or to estimate the amount or range of possible loss, if any, from these actions.

In April 2019, a subcontractor of First Solar sustained certain injuries while performing work at a former project site and, in May 2019, commenced legal action against a subsidiary of the Company. In June 2023, a jury awarded damages of approximately \$51.3 million to the plaintiff. On September 21, 2023, the Superior Court of California for Monterey County ruled, in response to a motion for remittitur filed by the Company, that the damages awarded to the plaintiff were excessive and reduced the award from \$51.3 million to \$21.8 million. The plaintiff and defendant have appealed and cross appealed varying aspects of the verdict and the remittitur. Accordingly, due to the uncertainty surrounding the multiple decisions and appeals, as of **March 31, 2024** **June 30, 2024**, we recorded a \$21.8 million accrued litigation payable included in "Other current liabilities" in our condensed consolidated balance sheet. We believe the full amount of awarded damages will be covered by our various insurance policies. Accordingly, we also recorded a \$21.8 million receivable included in "Other current assets" in our condensed consolidated balance sheet as of **March 31, 2024** **June 30, 2024**. The plaintiff did not accept the reduced award by the court ordered deadline of October 10, 2023, and, as a result, the \$21.8 million award has been vacated and a new trial will be scheduled. We, in conjunction with our insurance carriers, are challenging the initial verdict in an appellate court, and the plaintiff is cross appealing from the decision to reduce the award, among other issues, stemming from the trial. The parties are awaiting a briefing schedule from the Appellate Court.

On September 29, 2023 and **June 5, 2024**, the Company received **a subpoena subpoenas** from the Division of Enforcement of the SEC seeking documents and information **since 2019** relating to the Company's operations in India, the Company's entry into a PV module supply agreement with an India-based customer, and certain aspects of the Company's technology roadmap, among other things. The Company is cooperating with the SEC and cannot predict the ultimate timing, scope, or outcome of this matter.

We are party to other legal matters and claims in the normal course of our operations. While we believe the ultimate outcome of these matters and claims will not have a material adverse effect on our financial position, results of operations, or cash flows, the outcome of such matters and claims is not determinable with certainty, and negative outcomes may adversely affect us.

11. Revenue from Contracts with Customers

We recognize revenue for module sales at a point in time following the transfer of control of the modules to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. Such contracts may contain provisions that require us to **make pay the customer** liquidated **damage payments to the customer damages** if we fail to ship or deliver modules by scheduled dates. For certain contracts, we may also be required to **make pay** liquidated **damage payments damages** if we fail to deliver modules that meet certain U.S. domestic content requirements. We recognize these liquidated damages as a reduction of revenue in the period we transfer control of the modules to the customer.

The following table reflects the changes in our contract liabilities, which we classify as "Deferred revenue," for the **three six** months ended **March 31, 2024** **June 30, 2024** (in thousands):

	March 31, 2024	December 31, 2023	Three Month Change	
Deferred revenue	\$ 2,068,082	\$ 2,005,183	\$ 62,899	3 %

	June 30, 2024	December 31, 2023	Six Month Change	
Deferred revenue	\$ 1,948,348	\$ 2,005,183	\$ (56,835)	(3)%

During the **three six** months ended **March 31, 2024** **June 30, 2024**, our contract liabilities **increased decreased** by **\$62.9 million** **\$56.8 million** primarily due to **advance payments received in the current year for future sales of solar modules, partially offset by** the recognition of revenue for sales of solar modules for which payment was received in prior years. Additionally, we restructured the payment security for one of our customer contracts, which resulted in the return of previously received advance payments in exchange for a letter of credit. These decreases were partially offset by advance payments received in the current year for future sales of solar modules. During the **three six** months ended **March 31, 2024** **June 30, 2024** and 2023, we recognized revenue of **\$126.3** **\$221.3** million and **\$90.4** **\$215.5** million, respectively, that was included in the corresponding contract liability balance at the beginning of the periods.

As of **March 31, 2024** **June 30, 2024**, we had entered into contracts with customers for the future sale of **78.3** **74.6** GW of solar modules for an aggregate transaction price of **\$23.4 billion** **\$22.3 billion**, which we expect to recognize as revenue through 2030 as we transfer control of the modules to the customers. Such aggregate transaction price excludes estimates of variable consideration associated with (i) future module technology improvements, including enhancements to certain energy related attributes, (ii) sales freight in excess of defined thresholds, (iii) changes to certain commodity prices, and (iv) the module wattage committed for delivery, among other things. As a result, the revenue recognized from such contracts may increase or decrease in future periods relative to the original transaction price. These contracts may also be subject to amendments as agreed to by the parties to the contract. These amendments may increase or decrease the volume of modules to be sold under the contract, change delivery schedules, or otherwise adjust the expected revenue under these contracts.

See Note 16. "Segment Reporting" for the disaggregation of revenue by reportable segment.

12. Share-Based Compensation

The following table presents share-based compensation expense recognized in our condensed consolidated statements of operations for the three and six months ended March 31, 2024 June 30, 2024 and 2023 (in thousands):

	Three Months Ended		Three Months Ended		Three Months Ended	
	March 31,		March 31,		March 31,	
	2024		2024		2024	
			Three Months Ended		Six Months Ended	
			June 30,		June 30,	
	2024		2024		2023	2024
Cost of sales						
Cost of sales						
Cost of sales						
Selling, general and administrative						
Selling, general and administrative						
Selling, general and administrative						
Research and development						
Research and development						
Research and development						
Production start-up						
Production start-up						
Production start-up						
Total share-based compensation expense						
Total share-based compensation expense						
Total share-based compensation expense						

As of March 31, 2024 June 30, 2024, we had \$52.0 \$44.1 million of unrecognized share-based compensation expense related to unvested restricted stock and performance units, which we expect to recognize over a weighted-average period of approximately 1.7 1.4 years.

In March 2020, the compensation committee of our board of directors approved grants of performance units (“PU” or “PUs”) for key executive officers to be earned over a multi-year performance period, which ended in December 2022. Vesting of the 2020 grants of PUs was contingent upon the relative attainment of target contracted revenue, module wattage, and return on capital metrics. In March 2023, the compensation committee certified the achievement of the vesting conditions applicable to the grants, which approximated the target level of performance. Accordingly, each participant received one share of common stock for each vested PU granted, net of any tax withholdings.

In May 2021, the compensation committee approved grants of PUs for key executive officers to be earned over a multi-year performance period, which ended in December 2023. Vesting of the 2021 grants of PUs was contingent upon the relative attainment of target contracted revenue, cost per watt, incremental average selling price, and operating income metrics. In February 2024, the compensation committee certified the achievement of the vesting conditions applicable to the grants, which approximated the maximum level of performance. Accordingly, each participant received one share of common stock for each vested PU granted, net of any tax withholdings.

In March 2022, the compensation committee approved additional grants of PUs for key executive officers. Such grants are expected to be earned over a multi-year performance period ending in December 2024. Vesting of the 2022 grants of PUs is contingent upon the relative attainment of target contracted revenue, cost per watt, and return on capital metrics.

In March 2023, the compensation committee approved additional grants of PUs for key executive officers. Such grants are expected to be earned over a multi-year performance period ending in December 2025. Vesting of the 2023 grants of PUs is contingent upon the relative attainment of target contracted revenue, production, and operating margin metrics.

In March 2024, the compensation committee approved additional grants of PUs for key executive officers. Such grants are expected to be earned over a multi-year performance period ending in December 2026. Vesting of the 2024 grants of PUs is contingent upon the relative attainment of target contracted revenue, production, incremental average selling price, and operating margin metrics.

Vesting of PUs is also contingent upon the employment of program participants through the applicable vesting dates, with limited exceptions in case of death, disability, a qualifying retirement, or a change-in-control of First Solar. Outstanding PUs are included in the computation of diluted net income per share based on the number of shares that would be

issuable if the end of the reporting period were the end of the contingency period.

13. Income Taxes

The Inflation Reduction Act. In August 2022, the U.S. President signed into law the IRA, which revised U.S. tax law by, among other things, including a new corporate alternative minimum tax of 15% on certain large corporations, imposing a 1% excise tax on stock buybacks, and providing various incentives to address climate change, including the introduction of the advanced manufacturing production credit under Section 45X of the IRC. The provisions of the IRA are generally effective for tax years beginning after 2022. Certain developments to technical guidance and regulations include the following:

- In May 2023, the U.S. Treasury Department and the IRS issued initial guidance on the domestic content bonus credit under various sections of the IRC, including Section 45X.
- In December 2023, the U.S. Treasury Department and the IRS issued a notice of proposed rulemaking and public hearing providing initial guidance that confirms confirming certain key aspects of the Section 45X credit.
- In March 2024, the U.S. Treasury Department and the IRS issued final regulations on the direct payment election under Section 6417 of the IRC. The final regulations apply to tax years ending on or after March 11, 2024, but taxpayers may choose to apply the rules in the final regulations in taxable years ending before March 11, 2024, provided the final regulations are applied in their entirety and in a consistent manner. The final regulations mostly adopt adopted and confirm confirmed the proposed regulations previously issued in June 2023.
- In April 2024, the U.S. Treasury Department and the IRS issued final regulations on the elective transfer provisions under Section 6418 of the IRC. The final regulations will apply 60 days to taxable years ending on or after publication April 30, 2024, but taxpayers may choose to apply the rules in the Federal Register final regulations in taxable years ending before April 30, 2024, provided the final regulations are applied in their entirety and in a consistent manner. The final regulations mostly adopt adopted and confirm confirmed the proposed regulations previously issued in June 2023.

Given the complexities of the IRA, which is pending additional technical guidance and additional final regulations from the IRS and U.S. Treasury Department and the IRS, we expect to continue to monitor these developments and evaluate the their potential future impact to our results of operations.

Foreign tax credit regulations. In November 2022, the U.S. Treasury Department released proposed foreign tax credit ("FTC") regulations addressing various aspects of the U.S. FTC regime. Among other items, these proposed regulations provide certain exceptions for determining creditable foreign withholding taxes. Taxpayers may rely on these proposed regulations, which apply to tax years beginning on or after December 28, 2021. As a result of these proposed regulations, foreign withholding taxes will continue to be creditable. In July 2023, the U.S. Treasury Department issued Notice 2023-55, which provides temporary relief for taxpayers in determining whether a foreign tax is eligible for a foreign tax credit for taxable years beginning on or after December 28, 2021, and ending before December 31, 2023. In December 2023, the U.S. Treasury Department issued Notice 2023-80, which extends this relief period until future guidance is issued.

Pillar Two. In December 2021, the Organization for Economic Co-operation and Development released model rules for a new global minimum tax framework ("Pillar Two"). Certain governments in countries in which we operate have enacted local Pillar Two legislation, with an effective date from January 1, 2024. We currently do not expect Pillar Two to have a material impact on our 2024 financial statements. As these legislative changes develop and expand, we expect to continue to monitor these the changes and evaluate the their potential impact to our financial results, results of operations.

Our effective tax rate was 7.4% and (19.3)% 4.9% for the three six months ended March 31, 2024 June 30, 2024 and 2023, respectively. The increase in our effective tax rate was primarily driven by the relative size of our pretax income in the prior period and higher prior period lower excess tax benefits associated with share-based compensation, partially offset by higher prior period losses in certain jurisdictions for which no tax benefit could be recorded, compensation. Our provision for income taxes differed from the amount computed by applying the U.S. statutory federal income tax rate of 21% primarily due to the effect of tax law changes associated with the IRA described above and excess tax benefits associated with share-based compensation, above.

During the three months ended June 30, 2024, we reversed our position to indefinitely reinvest the accumulated earnings of a foreign subsidiary and recorded discrete tax expense of approximately \$6 million. There were no other changes to our indefinite reinvestment assertions during the period.

Our Malaysian subsidiary has been granted a long-term tax holiday that expires in 2027. The tax holiday, which generally provides for a full exemption from Malaysian income tax, is conditional upon our continued compliance with certain employment and investment thresholds, which we are currently in compliance with and expect to continue to comply with through the expiration of the tax holiday in 2027.

Our Vietnamese subsidiary has been granted a long-term tax incentive that generally provides a full exemption from Vietnamese income tax through 2023, followed by reduced annual tax rates of 5% through 2032 and 10% through 2036. Such long-term tax incentive is conditional upon our continued compliance with certain revenue and research and development ("R&D") spending thresholds, which we are currently in compliance with and expect to continue to comply with through the expiration of the tax holiday.

We are subject to audit by federal, state, local, and foreign tax authorities. We are currently under examination in India, Chile, Singapore, the United States, and Malaysia. the State of Georgia. We believe that adequate provisions have been made for any adjustments that may result from tax examinations. However, the outcome of tax examinations cannot be predicted with certainty. If any issues addressed by our tax examinations are not resolved in a manner consistent with our expectations, we could be required to adjust our provision for income taxes in the period such resolution occurs.

14. Net Income per Share

The calculation of basic and diluted net income per share for the three and six months ended March 31, 2024 June 30, 2024 and 2023 was as follows (in thousands, except per share amounts):

		Three Months Ended March 31, Three Months Ended March 31, Three Months Ended March 31,				
			Three Months Ended June 30,	Six Months Ended June 30,		
		2024	2024	2023	2024	2023
		2024				
		2024				
Basic net income per share						
Basic net income per share						
Basic net income per share						
Numerator:						
Numerator:						
Numerator:						
Net income						
Net income						
Net income						
Denominator:						
Denominator:						
Denominator:						
Weighted-average common shares outstanding						
Weighted-average common shares outstanding						
Weighted-average common shares outstanding						
Diluted net income per share						
Diluted net income per share						
Diluted net income per share						
Denominator:						
Denominator:						
Denominator:						
Weighted-average common shares outstanding						
Weighted-average common shares outstanding						
Weighted-average common shares outstanding						
Effect of restricted stock and performance units						
Effect of restricted stock and performance units						
Effect of restricted stock and performance units						

Weighted-average shares used in computing diluted net income per share
Weighted-average shares used in computing diluted net income per share
Weighted-average shares used in computing diluted net income per share
Net income per share:
Net income per share:
Net income per share:
Basic
Basic
Basic
Diluted
Diluted
Diluted

The following table summarizes the potential shares of common stock that were excluded from the computation of diluted net income per share for the three and six months ended March 31, 2024 June 30, 2024 and 2023 as such shares would have had an anti-dilutive effect (in thousands):

	Three Months Ended March 31,	Three Months Ended March 31,	Three Months Ended March 31,						
	2024			Three Months Ended June 30,		Six Months Ended June 30,			
	2024			2024		2023		2024	2023
Anti-dilutive shares									
Anti-dilutive shares									
Anti-dilutive shares									

15. Accumulated Other Comprehensive Loss

The following table presents the changes in accumulated other comprehensive loss, net of tax, for the three six months ended March 31, 2024 June 30, 2024 (in thousands):

	Foreign Currency Translation Adjustment	Foreign Currency Translation Adjustment	Unrealized (Loss) Gain on Marketable Securities and Restricted Marketable Securities	Unrealized (Loss) Gain on Derivative Instruments	Total	Foreign Currency Translation Adjustment	Unrealized Gain (Loss) on Marketable Securities and Restricted Marketable Securities	Unrealized Gain (Loss) on Derivative Instruments	Total
Balance as of December 31, 2023									
Other comprehensive (loss) income before reclassifications									
Other comprehensive loss before reclassifications									
Amounts reclassified from accumulated other comprehensive loss									
Net tax effect									
Net other comprehensive (loss) income									

Balance as of March 31, 2024
Balance as of June 30, 2024

The following table presents the pretax amounts reclassified from accumulated other comprehensive loss into our condensed consolidated statements of operations for the three and six months ended **March 31, 2024** **June 30, 2024** and 2023 (in thousands):

				Three Months Ended	Six Months Ended	
				June 30,	June 30,	
Comprehensive Income Components	Comprehensive Income Components	Income Statement	2024	2023	2024	2023
Comprehensive Income Components		Line Item				
			2024			
			2024			
Foreign currency translation adjustment:						
Foreign currency translation adjustment:						
Foreign currency translation adjustment:						
Foreign currency translation adjustment						
Foreign currency translation adjustment						
Foreign currency translation adjustment						
Foreign currency translation adjustment						
Foreign currency translation adjustment						
Foreign currency translation adjustment						
Foreign currency translation adjustment						
Total foreign currency translation adjustment						
Total foreign currency translation adjustment						
Total foreign currency translation adjustment						
Unrealized loss on derivative contracts:						
Unrealized loss on derivative contracts:						
Unrealized loss on derivative contracts:						
Unrealized gain (loss) on marketable securities and restricted marketable securities						
Unrealized loss on derivative instruments:						
Commodity swap contracts						
Commodity swap contracts						
Commodity swap contracts						
Total loss reclassified						
Total loss reclassified						
Total loss reclassified						

16. Segment Reporting

Our primary segment is our modules business, which involves the design, manufacture, and sale of cadmium telluride (“CdTe”) solar modules, which convert sunlight into electricity. Third-party customers of our modules segment include system developers, independent power producers, utilities, commercial and industrial companies, and other system owners and operators. Our residual business operations include certain project development activities, O&M services, the results of operations from PV solar power systems we owned and operated in certain international regions, and the sale of such systems to third-party customers.

See Note 21. “Segment and Geographical Information” in our Annual Report on Form 10-K for the year ended December 31, 2023 for additional discussion of our segment reporting.

The following tables provide a reconciliation of certain financial information for our reportable segment to information presented in our condensed consolidated financial statements for the three and six months ended **March 31, 2024** **June 30, 2024** and 2023 and as of **March 31, 2024** **June 30, 2024** and December 31, 2023 (in thousands):

	Three Months Ended March 31, 2024			Three Months Ended March 31, 2023			Three Months Ended June 30, 2024			Three Months Ended June 30, 2023		
	Modules	Other	Total	Modules	Other	Total	Modules	Other	Total	Modules	Other	Total

- the passage of legislation intended to encourage renewable energy investments through tax credits, such as the IRA;
- our ability to execute on our long-term strategic plans, including our ability to secure financing and realize the potential benefits of strategic acquisitions and investments;
- our ability to execute on our solar module technology and cost reduction roadmaps;
- our ability to incorporate technology improvements into our manufacturing process, including the implementation of our copper replacement program;
- our ability to avoid manufacturing interruptions, including during the ramp of our Series 7 modules manufacturing facilities;
- our ability to improve the wattage of our solar modules;
- interest rate fluctuations and our customers' ability to secure financing;
- the loss of any of our large customers, or the ability of our customers and counterparties to perform under their contracts with us;
- the severity and duration of public health threats, including the potential impact on the Company's business, financial condition, and results of operations;
- our ability to attract new customers and to develop and maintain existing customer and supplier relationships;
- our ability to construct new production facilities to support new product lines;
- general economic and business conditions, including those influenced by U.S., international, and geopolitical events;
- environmental responsibility, including with respect to CdTe and other semiconductor materials;
- evolving corporate governance and public disclosure regulations and expectations, including with respect to environmental, social, and governance matters;
- claims under our limited warranty obligations;
- changes in, or the failure to comply with, government regulations and environmental, health, and safety requirements;
- effects arising from and results of pending litigation;
- future collection and recycling costs for solar modules covered by our module collection and recycling program; program or otherwise as required by external laws and regulation;
- supply chain disruptions, including demurrage and detention charges; disruptions;
- our ability to protect our intellectual property;
- our ability to prevent and/or minimize the impact of cybersecurity incidents or information security breaches;

- our continued investment in R&D;
 - the supply and price of components and raw materials, including CdTe;
 - our ability to attract, train, retain and successfully integrate key talent into our team; and
-
- all other matters discussed in Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023, elsewhere in this Quarterly Report on Form 10-Q, and our other reports filed with the SEC.

You should carefully consider the risks and uncertainties described in this section. The following discussion and analysis of our business, financial condition, and results of operations should be read in conjunction with our condensed consolidated financial statements and the related notes thereto included in this Quarterly Report on Form 10-Q.

Executive Overview

We are a leading American solar technology company and global provider of responsibly produced eco-efficient PV solar energy solutions. Developed at our R&D labs in California and Ohio, we manufacture and sell PV solar modules with an advanced thin film semiconductor technology that provide a high-performance, lower-carbon and lower-water alternative to conventional crystalline silicon PV solar modules, and the smallest environmental footprint in the industry. From raw material sourcing through end-of-life module recycling, we are committed to reducing the environmental impacts and enhancing the social and economic benefits of our products across their life cycle. Our PV solar modules are produced using a fully integrated, continuous process that does not rely on Chinese crystalline silicon supply chains.

We are the world's largest thin film PV solar module manufacturer and the largest PV solar module manufacturer in the Western Hemisphere. We are in the process of expanding our manufacturing capacity in the United States, which includes our fourth and fifth manufacturing facilities expected to commence operations in the second halves of 2024 and 2025, respectively. With a global footprint that spans the United States, India, Malaysia, and Vietnam, we expect to have an annual manufacturing capacity of over 25 GW by the end of 2026.

Certain of our financial results and other key operational developments for the three months ended March 31, 2024 June 30, 2024 include the following:

- Net sales for the three months ended March 31, 2024 June 30, 2024 increased by 45% 25% to \$794.1 million \$1.0 billion compared to \$548.3 million \$0.8 billion for the same period in 2023. The increase was primarily driven by an increase in the volume of modules sold to third parties and an increase in the average selling price per watt of our modules.
- Gross profit as a percentage of net sales for the three months ended March 31, 2024 June 30, 2024 increased 23.2 11.1 percentage points to 43.6% 49.4% from 20.4% 38.3% for the same period in 2023. The increase in gross profit was primarily due to the recognition a higher sales mix of modules qualifying for the advanced manufacturing production credit under Section 45X of the IRC, reductions in sales freight costs, higher utilization across our manufacturing plants, and our entitlement to a higher average selling price per watt for modules sold contract termination payment from one of our European customers that reduced its module demand in the current period.
- As of March 31, 2024 June 30, 2024, our the total installed nameplate production capacity across all our facilities was approximately 17.6 GW. During the three months ended March 31, 2024 June 30, 2024, we produced 3.6 3.7 GW and sold 2.7 3.4 GW of solar modules. During 2024, we expect to produce between 15.6 GW and 16.0 GW and sell between 15.6 GW and 16.3 GW of solar modules.
- During the three months ended June 30, 2024, we achieved a new world record CdTe research cell conversion efficiency of 23.1%, which was certified by the U.S. Department of Energy's National Renewable Energy Laboratory.
- During the three months ended June 30, 2024, we completed certain key construction and equipment installation activities at our dedicated R&D innovation center in Ohio, and in July 2024, the facility was formally commissioned. This R&D facility features a high-tech pilot manufacturing line, which is expected to enable the production of full-sized prototypes of thin film and tandem PV modules, supporting the implementation of our technology roadmap.
- In December 2023, we entered into an agreement with Fiserv for the sale of \$687.2 million of Section 45X tax credits we generated during 2023 for aggregate cash proceeds of \$659.7 million. We received initial the full cash proceeds of \$480.0 million during the three six months ended March 31, 2024 and received the remaining cash proceeds of \$179.7 million in April 2024, June 30, 2024.

Market Overview

Solar energy is one of the fastest growing forms of renewable energy with numerous economic and environmental benefits that make it an attractive complement to and/or substitute for traditional forms of energy generation. Over the past decade, the cost of producing electricity from PV solar power systems has decreased to levels that are competitive with or below the wholesale price of electricity in many markets. This price decline has opened new possibilities to develop systems in many locations with limited or no financial incentives, thereby promoting the widespread adoption of solar energy. Other technological developments in the renewable energy industry, such as the advancement of energy storage capabilities, have further enhanced the prospects of solar energy as an alternative to traditional forms of energy generation. In addition to these economic benefits, solar energy has substantial environmental benefits. For example, PV solar power systems generate no greenhouse gas or other emissions and use minimal amounts of water compared to traditional energy generation assets. As a result of these and other factors, worldwide solar markets continue to develop and expand.

Recently enacted government support programs, such as the IRA, have contributed and are expected to continue to contribute to this momentum by providing solar module manufacturers, project developers, and project owners with certain subsidies and tax incentives to accelerate the ongoing transition to clean energy. Among other things, the IRA (i) reinstates the 30% investment tax credit for qualifying solar projects that meet certain wage and apprenticeship requirements, (ii) extends the production tax credit to include energy generated from solar projects, (iii) provides incremental investment and production tax credits for solar projects that meet certain domestic content and location requirements, and (iv) offers tax credits for solar modules and solar module components manufactured in the United States and sold to third parties.

Supply and demand. As a result of the market opportunities and increased demand described above, we are in the process of expanding our manufacturing capacity, by approximately 7.6 GW, including the construction of our fourth and fifth manufacturing facilities in the United States, which are expected to commence operations in the second half halves of 2024 and late 2025, respectively; and the expansion of our manufacturing footprint at our existing facilities in Ohio, which is expected to be completed in the first half of 2024, respectively. We continue to evaluate opportunities for future expansion worldwide. In the aggregate, we believe manufacturers of solar cells and modules, particularly those in China, have significant installed production capacity, relative to global demand, and the ability for additional capacity expansion. Accordingly, we believe the solar industry may experience periods of structural imbalance between supply and demand, which could lead to periods of pricing volatility. Further, demand for solar energy in key markets, such as the United States, India, and Europe, may be affected by the nature and extent of commitments to the renewable energy transition at the local and global levels. For example, certain large oil and gas and energy companies have experienced investor pressure to pursue returns commensurate with those currently associated with fossil fuel projects. Notwithstanding these considerations, utility and corporate demand for clean energy, and overall electric load growth, especially as a result of artificial intelligence-driven data center demand, continue to increase. In light of such market realities, we continue to advocate for industrial and trade policies that provide a level playing field for manufacturers of solar cells and modules. We also continue to focus on our strategies and points of differentiation, which include our advanced module technology, our manufacturing process and distributed manufacturing presence, our R&D capabilities, the sustainability advantage of our modules, and our financial stability.

Pricing competition. The solar industry has been characterized by intense pricing competition, both at the module and system levels. This competition may result in an environment in which pricing falls rapidly, which could potentially increase demand for solar energy solutions but constrain the ability for module manufacturers and project developers and module manufacturers to sustain meaningful and consistent profitability. Our results of operations could be adversely affected if competitors reduce pricing below their costs, bid aggressively low prices for module sale agreements, or are able to operate at minimal or negative operating margins for sustained periods of time. For certain of our competitors, including many in China, these practices may be enabled by their direct or indirect access to sovereign capital or other forms of state support. Although module average selling prices in many global markets have declined, near-term module pricing in the United States, our primary market, remains relatively stable due, in part, to the rising demand for domestically manufactured modules as a result of the IRA.

Diverse offerings. We face intense competition from manufacturers of crystalline silicon solar modules and other emerging technologies. Solar module manufacturers compete with one another on sales price per watt, which may be influenced by several module value attributes, including energy yield, wattage (through a larger form factor or an improved conversion efficiency), degradation, sustainability, and reliability. Sales price per watt may also be influenced by warranty terms, customer payment terms, and/or module content attributes. We believe that utility-scale solar will continue to be a compelling offering and will continue to represent an increasing portion of the overall electricity generation mix. However, this focus on utility-scale module offerings exists within a current market environment that includes rooftop and distributed generation solar, which may influence our future offerings.

We continue to devote significant resources to support the implementation of our technology roadmap and improve the energy output of our modules. In the course of our R&D activities, we explore various technologies in our efforts to sustain competitive differentiation of our modules. Such technologies include the development of bifacial modules, the implementation of our CuRe program, and ongoing research and development of multi-junction solar modules.

- *Bifacial.* While conventional solar modules are monofacial, meaning their ability to produce energy is a function of direct and diffuse irradiance on their front side, most module manufacturers offer bifacial modules that also capture diffuse irradiance on the back side of a module. Bifaciality compromises nameplate efficiency, but by converting both front and rear side irradiance, such technology may improve the overall energy production of a module relative to nameplate efficiency when applied in certain applications, which could potentially lower the overall levelized cost of electricity ("LCOE") of a system when compared to systems using monofacial solar modules. We recently began commercial production of bifacial solar modules at certain of our manufacturing facilities in Ohio, Ohio and, during the three months ended June 30,

2024, delivered our first bifacial modules to customers. Our bifacial module features an innovative transparent back contact which, in addition to converting both front and rear side irradiance, allows infrared light to pass through rather than be absorbed as heat. This design lowers the operational temperature of the module, resulting in a higher energy yield.

- **CuRe.** Our CuRe program is intended to improve our current semiconductor structure by replacing copper with certain other elements that are expected to enhance module performance by improving its bifaciality characteristics, improving its temperature coefficient, and improving its warranted degradation. As a result of these performance improvements, our PV solar modules are expected to produce more energy in real world operating conditions over their estimated useful lives than crystalline silicon modules with the same nameplate capacity. In September 2023 and January 2024, we established new world record CdTe research cell conversion efficiencies of 22.4% and 22.6%, respectively, which were based on our CuRe program and certified by the U.S. Department of Energy's National Renewable Energy Laboratory. We currently expect to complete our the lead line implementation of our CuRe technology in late 2024 and intend to begin replication of the fourth quarter of 2024, technology across our fleet in late 2025.
- **Multi-junction.** We continue to evaluate opportunities to develop and leverage other solar cell technologies in multi-junction applications that combine our thin film PV technology with another high efficiency PV semiconductor, with each layer optimized for a different range of the solar spectrum. We believe such applications, which are expected to utilize at least one thin-film semiconductor, have the potential to significantly increase the efficiency of PV modules beyond the limits of traditional single-junction devices. Our acquisition of Evolar accelerates is expected to accelerate the development of high efficiency multi-junction devices by integrating Evolar's know-how expertise with First Solar's existing R&D capabilities.

Product efficiencies. The efficiencies gained from the vertical integration of our manufacturing model and our continued ability to reduce costs allow us to compete favorably in markets where pricing for modules and systems is highly competitive. Our cost competitiveness is based in large part on our advanced thin film semiconductor technology, module wattage, (or conversion efficiency), proprietary manufacturing process (which enables us to produce a CdTe module in a matter of hours using a continuous and highly automated industrial manufacturing process, as opposed to a batch process), and our focus on operational excellence. In addition, our CdTe modules use approximately 2% to 3% of the amount of semiconductor material that is used to manufacture conventional crystalline silicon solar modules. The cost of polysilicon is a significant driver of the manufacturing cost of crystalline silicon solar modules, and the timing and rate of change in the cost of silicon feedstock and polysilicon could lead to changes in solar module pricing levels. In recent years, polysilicon consumption per cell has been reduced through various initiatives, which have contributed to declines in our relative manufacturing cost competitiveness over conventional crystalline silicon module manufacturers.

Energy performance. In many climates our solar modules provide certain energy production advantages relative to competing crystalline silicon solar modules. For example, our CdTe solar technology provides:

- a superior temperature coefficient, which results in stronger system performance in typical high insolation climates as the majority of a system's generation, on average, occurs when module temperatures are well above 25°C (standard test conditions);
- a superior spectral response in humid environments where atmospheric moisture alters the solar spectrum relative to standard test conditions;
- a better partial shading response than competing crystalline silicon technologies, which may experience significantly lower energy generation than CdTe solar technologies when partial shading occurs; and
- an immunity to cell cracking and its resulting power output loss, a common failure often observed in crystalline silicon modules caused by poor manufacturing, handling, weather, or other conditions.

In addition to these technological advantages, we warrant that our solar modules will produce at least 98% of their labeled power output rating during the first year, with the warranty coverage reducing by a degradation factor between 0.3% and 0.5%, depending on the module series, every year thereafter throughout the limited power output warranty period of up to 30 years. As a result of these and other factors, our solar modules can produce more annual energy in real world operating conditions than conventional crystalline silicon modules with the same nameplate capacity.

While our modules are generally competitive in cost, reliability, and performance attributes, there can be no guarantee such competitiveness will continue to exist in the future to the same extent or at all. Any declines in the competitiveness of our products could result in further declines in the average selling prices of our modules and additional margin compression. We Accordingly, we continue to focus on enhancing the competitiveness of our solar modules through our module technology and cost reduction roadmaps.

Certain Trends and Uncertainties

We believe that our business, financial condition, and results of operations may be favorably or unfavorably impacted by the following trends and uncertainties. See Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023 for discussions of other risks (the "Risk Factors") that may affect us.

Our business is evolving worldwide and is shaped by the varying ways in which our offerings can be compelling and economically viable solutions to energy needs in various markets. In addressing electricity demands, we are focused on providing utility-scale module offerings in key geographic markets that we believe have a significant need for mass-scale PV solar electricity, including markets throughout the United States, India, and Europe. We closely evaluate and monitor the appropriate level of resources required to support such markets and their associated sales opportunities. When deployed in utility-scale applications, our modules provide energy at a lower LCOE compared to traditional forms of energy generation, making them an attractive alternative to or replacement for aging fossil fuel-based generation resources. Accordingly, future retirements of aging energy generation resources represent a significant increase in the potential market for solar energy.

Demand for our PV solar module offerings depends, in part, on market factors outside our control. For example, many governments have proposed or enacted policies or support programs intended to encourage renewable energy investments to achieve decarbonization objectives and/or establish greater energy independence. While we compete in markets that do not require solar-specific government subsidies or support programs, our net sales and profits remain subject to variability based on the availability and size of government subsidies and economic incentives. Adverse changes in these factors could increase the cost of utility-scale systems, which could reduce demand for our solar modules. Recent developments to government support programs include the following:

- *United States.* In August 2022, the U.S. President signed the IRA into law, which is intended to accelerate the country's ongoing transition to clean energy. Among other things, the financial incentives provided by the IRA have significantly increased demand for modules manufactured in the United States. Accordingly, the demand for these solar modules is expected to increase domestic manufacturing in the near term, which may result in localized supply chain constraints and periods of inflationary pricing for certain of our key raw materials. The financial incentives provided by the IRA have also increased demand for solar modules in general due to the incremental tax credit available for the qualified production of clean hydrogen that is powered by renewable resources. There are currently several critical and complex aspects of the IRA pending further technical guidance and final regulations from the IRS and the U.S. Treasury Department, which in 2023 released a notice of intent to issue proposed regulations for the domestic content bonus tax credit and notices of proposed rulemaking and temporary regulations for the direct payment election and the tax credit transfer election. This initial guidance is subject to revision prior to the publishing of final regulations by the IRS and U.S. Treasury Department. Given the complexities of the IRA, we continue to evaluate the extent of benefits available to us, which we expect will favorably impact our results of operations in future periods. For example, we currently expect to qualify for the advanced manufacturing production credit under Section 45X of the IRC, which provides certain specified benefits for solar modules and solar module components manufactured in the United States and sold to third parties. See Note 5. "Government Grants" and Note 13. "Income Taxes" to our condensed consolidated financial statements for discussion of our expectation of the financial benefits available to us under the IRA. IRA and developments to technical guidance and regulations, respectively.
- *United States.* In September 2023, the U.S. Department of Energy Solar Energy Technologies Office ("SETO") announced the Advancing U.S. Thin-Film Solar Photovoltaics Funding Opportunity, which provides up to \$44 million for qualifying solar R&D projects related to CdTe development and the manufacturing of perovskite tandem PV products. In May 2024, SETO announced the award recipients for this funding opportunity, which included two of our R&D projects. These grants are intended to accelerate and expand domestic solar R&D to strengthen U.S. solar manufacturing and contribute to renewable energy targets.
- *India.* In March 2023, the government of India allocated financial incentives under the Production Linked Incentive ("PLI") scheme to certain PV module manufacturers, including First Solar. The PLI scheme is expected to provide aggregate funding of INR 185 billion (\$2.3 billion), of which INR 11.8 billion (\$143 million) was allocated to First Solar, to promote the manufacturing of high efficiency solar modules in India and to reduce India's dependency on foreign imports of solar modules. Under the PLI scheme, manufacturers were selected through a competitive bid process and may be entitled to receive certain cash incentives over a five-year period following the commissioning of their manufacturing facilities. Among other things, such incentives are subject to attaining certain minimum thresholds for module efficiency and temperature coefficient and require that a certain proportion of raw materials be sourced from the domestic market. Such conditions will be evaluated on a quarterly basis from 2026 through 2031. At this time, it is uncertain to what extent we may qualify for such incentives.

Demand for our solar energy solutions also depends on domestic or international trade policies and government regulations, which may be proposed, revised, and/or enacted across short- and long-term time horizons with varying degrees of impact to our net sales, profit, and manufacturing operations. Changes in these policies and regulations could adversely impact the competitive landscape of solar markets, which could reduce demand for our solar modules. Recent revisions or proposed changes to trade policy and government regulations include the following:

- *United States.* The United States currently imposes antidumping and countervailing duties ("AD/CVD") on certain imported crystalline silicon PV cells and modules from China and Taiwan. Such AD/CVD can change over time pursuant to annual reviews conducted by the U.S. Department of Commerce ("USDOC"), and a decline in duty rates or the USDOC's failure to fully enforce U.S. AD/CVD laws could have an adverse impact on our operating results. In August 2023, the USDOC issued final affirmative circumvention rulings, finding that solar panels completed in Cambodia, Malaysia, Thailand, and Vietnam using parts and components produced in China circumvent the pre-existing AD/CVD orders on China. Such duties are set to apply to circumventing imports on or after June 6, 2024, as well as any circumventing imports prior to that date in violation of certain requirements, including that they are imported, not used and or installed by certain dates in 2024, on or before December 3, 2024. Our operating results could be adversely impacted if the USDOC and other U.S. government agencies do not enforce the affirmative circumvention rulings as expected or if pending litigation challenges result in a modification of the rulings. Conversely, effective enforcement could positively impact our operating results.

- **United States States.** In October 2023, a coalition of U.S. aluminum extruders and a labor union filed AD/CVD petitions with the USDOC and the U.S. International Trade Commission ("USITC") related to aluminum extrusions from 15 countries. The USDOC has and USITC have initiated investigations based on the petitions. First Solar imports certain items that appear to be within the scope of the investigations. Our operating results could be adversely impacted if the USDOC imposes duties on such imports. A The USITC issued affirmative preliminary determination related to AD/CVD determinations in November 2023, and the petitions is USDOC issued preliminary antidumping determinations in May 2024, which found that our Malaysian supplier of aluminum extrusions was not dumping. The USDOC's and USITC's final determinations are expected to be announced by the USDOC in early May 2024, September 2024 and October 2024, respectively.
- **United States.** In April 2024, the American Alliance for Solar Manufacturing Trade Committee, which includes First Solar, filed a set of AD/CVD petitions with the U.S. International Trade Commission USDOC and the USDOC USITC to impose duties on certain unfairly traded solar products from four countries in Southeast Asia. Cambodia, Malaysia, Thailand, and Vietnam. The investigations could potentially lead to the imposition of AD/CVD orders on such solar products. In June 2024, the USITC issued affirmative preliminary determinations. The USDOC is expected to announce preliminary determinations in the CVD and AD investigations in October 2024 and November 2024, respectively.
- **India.** The Approved List of Module Models and Manufacturers ("ALMM") was introduced in 2021 as a non-tariff barrier to incentivize domestic local manufacturing of PV modules by approving the list of models and manufacturers who can participate in certain solar development projects. The ALMM is approved by the Ministry of New and Renewable Energy, and any modifications to the ALMM list and its application may affect future investments in solar module manufacturing in India. In April 2024, the government of India reimposed the ALMM, thereby requiring solar project developers to procure qualifying modules from companies included in on the ALMM; as of April 2024, First Solar has been included in the ALMM with respect to list, which includes our modules manufactured in India, Indian manufacturing facility. Our operating results could be adversely impacted if the ALMM requirements are significantly relaxed to allow modules to be imported from countries that are part of the Association of Southeast Asian Nations, other countries. Also in April 2024, the ALMM was amended to include specific minimum module conversion efficiency thresholds for CdTe solar technologies starting at 18% for solar lighting, 18.5% for rooftop applications, and 19% for utility-scale applications.

Our ability to provide solar modules on economically attractive terms is also affected by the availability and cost of logistics services associated with the procurement of raw materials or equipment used in our manufacturing process and the shipping, handling, storage, and distribution of our modules. To mitigate certain logistics costs, we employ module commercial contract structures that provide additional consideration to us if the cost of logistics services, excluding demurrage and detention, exceeds defined thresholds. We may also adjust our shipping plans to include additional lead times for module deliveries and/or utilize our network of U.S. distribution centers, centers to mitigate logistics costs. Additionally, our manufacturing capacity expansions in the U.S. and India are expected to bring manufacturing production activities closer to customer demand, further mitigating our exposure to the cost of ocean freight.

We generally price and sell our solar modules on a per watt basis. As of March 31, 2024 June 30, 2024, we had entered into contracts with customers for the future sale of 78.3 74.6 GW of solar modules for an aggregate transaction price of \$23.4 \$22.3 billion, which we expect to recognize as revenue through 2030 as we transfer control of the modules to the our customers. Such volume includes contracts for the sale of 40.2 38.4 GW of solar modules that include transaction with anticipated price adjustments associated with for future module technology improvements, including enhancements to certain energy related attributes. Based on these potential technology improvements, the contracted module volumes volume as of March 31, 2024 June 30, 2024, the expected timing such technology improvements are being incorporated into our manufacturing process, and the expected timing of module deliveries, such adjustments, if realized, could result in additional revenue of up to \$0.5 \$0.7 billion, the majority of which would be recognized in between 2025 2026, and 2027. 2028. In addition to these price adjustments, certain of our contracts with customers may include favorable price adjustments associated with sales freight in excess of defined thresholds. Certain of our contracts with customers may also include thresholds and/or favorable or unfavorable price adjustments associated with changes to (i) certain commodity prices, and/or (ii) the module wattage committed for delivery, delivery, and (iii) the volume of modules sold that meet certain U.S. domestic content requirements. As a result, the revenue recognized from such contracts may increase or decrease in future periods relative to the original transaction price.

We continue to increase the nameplate production capacity of our existing manufacturing facilities by improving our production throughput, increasing module wattage, (or conversion efficiency), and reducing manufacturing yield losses. Additionally, we are in the process of expanding our manufacturing capacity by approximately 7.6 GW, including the construction of our fourth and fifth manufacturing facilities in the United States, which are expected to commence operations in the second half of 2024 and late 2025, respectively, and the as well as capacity expansion of our manufacturing footprint at our existing facilities in Ohio, which is expected to be completed in the first half of 2024, facilities. This additional capacity, and any other potential investments to add to or otherwise modify our existing manufacturing capacity in response to market demand and competition, may require significant internal and possibly external sources of capital, and may be subject to certain risks and uncertainties described in Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023.

Results of Operations

The following table sets forth our condensed consolidated statements of operations as a percentage of net sales for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

Three Months Ended
March 31,

		Three Months Ended March 31,		Three Months Ended March 31,			
		2024		2024			
				Three Months Ended June 30,		Six Months Ended June 30,	
		2024		2024		2023	

Net income
Net income

Segment Overview

Our primary segment is our modules business, which involves the design, manufacture, and sale of CdTe solar modules, which convert sunlight into electricity. Third-party customers of our modules segment include system developers, independent power producers, utilities, commercial and industrial companies, and other system owners and operators. Our residual business operations include certain project development activities, O&M services, the results of operations from PV solar power systems we owned and operated in certain international regions, and the sale of such systems to third-party customers.

Net sales

We generally price and sell our solar modules on a per watt basis. During the three and six months ended March 31, 2024 June 30, 2024, we sold the majority of our solar modules to developers and operators of systems in the United States, and substantially all of our modules business net sales were denominated in U.S. dollars. We recognize revenue for module sales at a point in time following the transfer of control of the modules to the customer, which typically occurs upon shipment or delivery depending on the terms of the underlying contracts. Net sales from our residual business operations primarily consists of revenue recognized for sales of development projects or completed systems, including any modules installed in such systems and any revenue from energy generated by such systems.

The following table shows net sales by reportable segment for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)

(Dollars in thousands)

(Dollars in thousands)		2024		2023		Three Month Change				2024		2023		Six Month Change					
Modules	Modules	\$	1,008,765	\$	802,237	\$	206,528	26	26	%	\$	1,802,199	\$	1,338,827	\$	463,372	35	35	%
Modules																			
Modules																			
Other																			
Other																			
Other	Other		1,717	8,436	8,436	(6,719)	(6,719)	(80)	(80)	%		2,391	20,132	20,132	(17,741)	(17,741)	(88)	(88)	%
Net sales	Net sales	\$	1,010,482	\$	810,673	\$	199,809	25	25	%	\$	1,804,590	\$	1,358,959	\$	445,631	33	33	%
Net sales																			
Net sales																			

Net sales from our modules segment increased \$256.8 million \$206.5 million for the three months ended March 31, 2024 June 30, 2024 compared to the three months ended March 31, 2023 June 30, 2023 primarily due to a 39% 21% increase in the volume of modules sold to third parties and an 6% 4% increase in the average selling price per watt. Net sales from our residual business operations during the three months ended March 31, 2024 June 30, 2024 decreased \$11.0 \$6.7 million compared to the three months ended March 31, 2023 June 30, 2023 as our residual business operations continue to wind down.

Net sales from our modules segment increased \$463.4 million for the six months ended June 30, 2024 compared to the six months ended June 30, 2023 primarily due to a 29% increase in the volume of modules sold to third parties and a 5% increase in the average selling price per watt. Net sales from our residual business operations during the six months ended June 30, 2024 decreased \$17.7 million compared to the six months ended June 30, 2023 as our residual business operations continue to wind down.

Cost of sales

Our modules business cost of sales includes the cost of raw materials and components for manufacturing solar modules, such as glass, transparent conductive coatings, CdTe and other thin film semiconductors, laminate materials, connector assemblies, edge seal materials, and frames, frames or back rails. In addition, our cost of sales includes direct labor for the manufacturing of solar modules and manufacturing overhead, such as engineering, equipment maintenance, quality and production control, and information technology. Our cost of sales also includes depreciation of manufacturing plant and equipment, facility-related expenses, environmental health and safety costs, and costs associated with shipping, warranties, and solar module collection and recycling (excluding accretion). Cost of sales for our residual business operations includes project-related costs, such as development costs (legal, consulting, transmission upgrade, interconnection, permitting, and other similar costs), EPC costs (consisting primarily of solar modules, inverters, electrical and mounting hardware, project management and engineering, and construction labor), and site-specific costs.

The following table shows cost of sales by reportable segment for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)

(Dollars in thousands)

(Dollars in thousands)		2024			2023			Three Month Change			2024			2023						Six Month Change					
Modules	Modules	\$	510,432	\$	\$	500,320	\$	\$	10,112	2	2	%	\$	957,698	\$		\$	930,016	\$	\$	27,682	3		3	%
Modules																									
Modules																									
Other																									
Other																									
Other	Other		1,161	(67)		(67)	1,228		1,228	N/A		N/A		2,000	6,472		6,472	(4,472)		(4,472)	(69)		(69)	%	
Cost of sales	Cost of sales	\$	511,593	\$	\$	500,253	\$	\$	11,340	2	2	%	\$	959,698	\$		\$	936,488	\$	\$	23,210	2		2	%
Cost of sales																									
Cost of sales																									
% of net sales																									
% of net sales																									
% of net sales																									

Cost of sales increased \$11.9 million \$11.3 million, or 3% 2%, and decreased 23.2 11.1 percentage points as a percent of net sales for the three months ended March 31, 2024 June 30, 2024 compared to the three months ended March 31, 2023 June 30, 2023. The increase in cost of sales was driven by a \$17.6 \$10.1 million increase in our modules segment cost of sales primarily due to (i) higher costs of \$147.9 \$128.6 million due to an increase in the volume of modules sold, partially offset by (ii) the recognition a higher sales mix of modules qualifying for the advanced manufacturing production credit under Section 45X of the IRC, which decreased cost of sales by \$124.3 \$103.6 million compared to the prior period, (iii) lower ramp costs at our newest Ohio and (iii) our Indian manufacturing facilities of \$23.1 million, and (iv) lower sales freight of \$28.4 \$13.7 million due to a reduction in rates.

Cost of sales increased \$23.2 million, or 2%, and decreased 15.7 percentage points as a percent of net sales for the six months ended June 30, 2024 compared to the six months ended June 30, 2023. The increase in cost of sales was driven by a \$27.7 million increase in our modules segment cost of sales primarily due to (i) an increase in the volume of modules sold resulting in higher costs of \$304.5 million and (ii) continued module costs reductions of \$10.0 million. These increases were partially offset by (iii) the recognition of the above-mentioned advanced manufacturing production credit, which decreased costs by \$227.9 million, (iv) lower sales freight of \$70.3 million, and (v) lower production ramp costs of \$29.7 million. The overall increase in cost of sales was partially offset by a \$5.7 million \$4.5 million decrease in our residual business operations cost of sales as operations from our residual business operations continue to wind down.

Gross profit

Gross profit may be affected by numerous factors, including the selling prices of our modules and the selling prices of projects and services included in our residual business operations, our manufacturing costs, the capacity utilization of our manufacturing facilities, and foreign exchange rates. Gross profit may also be affected by the mix of net sales from our modules business and residual business operations.

The following table shows gross profit for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)

(Dollars in thousands)

(Dollars in thousands)		2024		2023		Three Month Change				2024		2023		Six Month Change								
Gross profit	Gross profit	\$	498,889	\$	310,420	\$	\$	188,469	61	61	%	\$	844,892	\$	\$	422,471	\$	\$	422,421	100	100	%
Gross profit																						
Gross profit																						
% of net sales																						
% of net sales																						
% of net sales																						

Gross profit as a percentage of net sales increased 23.2 11.1 percentage points to 43.6% 49.4% during the three months ended March 31, 2024 June 30, 2024 from 20.4% 38.3% during the three months ended March 31, 2023 June 30, 2023 primarily due to (i) a higher sales mix of modules qualifying for the advanced manufacturing production credit described above, (ii) reductions in sales freight costs, higher utilization across our manufacturing plants, and (iii) our entitlement to a higher average selling price per watt for modules sold contract termination payment from one of our European customers that reduced its module demand in the current period.

Gross profit as a percentage of net sales increased 15.7 percentage points to 46.8% during the six months ended June 30, 2024 from 31.1% during the six months ended June 30, 2023 primarily due to (i) a higher sales mix of modules qualifying for the advanced manufacturing production credit described above, (ii) higher utilization across our manufacturing facilities, (iii) an increase in the volume of modules sold, and (iv) lower sales freight.

Selling, general and administrative

Selling, general and administrative expense consists primarily of salaries and other personnel-related costs, professional fees, insurance costs, and other business development and selling expenses.

The following table shows selling, general and administrative expense for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)													
(Dollars in thousands)													
(Dollars in thousands)													
		2024		2023		Three Month Change			2024		2023		Six Month Change
Selling, general and administrative	Selling, general and administrative	\$ 46,560	\$	\$ 46,328	\$	232	1	1 %	\$ 92,387	\$	\$ 90,356	\$	2,031 2 2 %
Selling, general and administrative													
Selling, general and administrative													
% of net sales													
% of net sales													
% of net sales													

Selling, general and administrative expense for the three and six months ended March 31, 2024 increased compared to June 30, 2024 was consistent with the three and six months ended March 31, 2023, primarily due to higher costs associated with our implementation of a new global enterprise resource planning system, June 30, 2023.

Research and development

Research and development expense consists primarily of salaries and other personnel-related costs; the cost of products, materials, and outside services used in our R&D activities; and depreciation and amortization expense associated with R&D specific facilities and equipment. We maintain a number of programs and activities to improve our technology and processes in order to enhance the performance and reduce the costs of our solar modules.

The following table shows research and development expense for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)													
(Dollars in thousands)													
(Dollars in thousands)													
		2024		2023		Three Month Change			2024		2023		Six Month Change
Research and development	Research and development	\$ 51,937	\$	\$ 36,745	\$	15,192	41	41 %	\$ 94,679	\$	\$ 67,255	\$	27,424 41 41 %
Research and development													
Research and development													
% of net sales													
% of net sales													
% of net sales													

Research and development expense for the three and six months ended March 31, 2024 June 30, 2024 increased compared to the three and six months ended March 31, 2023 June 30, 2023 primarily due to higher material, module, depreciation and other testing maintenance costs resulting from our investments in R&D facilities and equipment and higher employee compensation expense resulting from an increase in headcount.

Production start-up

Production start-up expense consists of costs associated with operating a production line before it is qualified for commercial production, including the cost of raw materials for solar modules run through the production line during the qualification phase, employee compensation for individuals supporting production start-up activities, and applicable facility related

costs. Production start-up expense also includes costs related to the selection of a new site and implementation costs for manufacturing process improvements to the extent we cannot capitalize these expenditures.

The following table shows production start-up expense for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)

(Dollars in thousands)

(Dollars in thousands)		2024		2023		Three Month Change			2024		2023		Six Month Change						
Production start-up	Production start-up	\$	27,451	\$	23,377	\$	4,074	17	17	%	\$	42,859	\$	42,871	\$	(12)	—	—	%
Production start-up																			
Production start-up																			
% of net sales																			
% of net sales																			
% of net sales																			

During the three and six months ended March 31, 2024 June 30, 2024, we incurred production start-up expense primarily for our fourth manufacturing facility in the U.S., which is expected to commence operations in the second half of 2024. During the three and six months ended March 31, 2023 June 30, 2023, we incurred production start-up expense primarily for our first manufacturing facility in India, and our third manufacturing facility in the U.S., both of which commenced operations during 2023.

Foreign currency loss, net

Foreign currency loss, net consists of the net effect of gains and losses resulting from holding assets and liabilities and conducting transactions denominated in currencies other than our subsidiaries' functional currencies.

The following table shows foreign currency loss, net for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)

(Dollars in thousands)

(Dollars in thousands)		2024		2023		Three Month Change				2024		2023		Six Month Change					
Foreign currency loss, net	Foreign currency loss, net	\$	(9,649)	\$	(4,652)	\$	(4,997)	107	107	%	\$	(12,507)	\$	(10,599)	\$	(1,908)	18	18	%
Foreign currency loss, net																			
Foreign currency loss, net																			

Foreign currency loss, net for the three and six months ended March 31, 2024 decreased June 30, 2024 increased compared to the three and six months ended March 31, 2023 primarily June 30, 2023 largely due to a benefit from differences between our economic hedge positions and the underlying currency exposures, partially offset by higher costs associated with hedging activities related to our subsidiaries in India.

Interest income

Interest income is earned on our cash, cash equivalents, marketable securities, restricted cash, restricted cash equivalents, and restricted marketable securities. Interest income also includes interest earned from late customer payments.

The following table shows interest income for the three and six months ended March 31, 2024 June 30, 2024 and 2023:

(Dollars in thousands)

(Dollars in thousands)

(Dollars in thousands)		2024		2023		Three Month Change						2024		2023		Six Month Change				
Interest income	Interest income	\$	24,599	\$	25,026	\$	(427)	(2)	(2)	%	\$	51,844	\$	50,848	\$	996	2	2	%	
Interest income																				
Interest income																				

Interest income for the three and six months ended March 31, 2024 increased compared to June 30, 2024 was consistent with the three and six months ended March 31, 2023 primarily due to June 30, 2023. Although yields on our investments were generally higher yields and balances of marketable securities, in 2024, they were partially offset by lower average holdings of cash and time deposits.

Interest expense, net

Interest expense, net is primarily comprised of interest incurred on debt. We may capitalize interest expense to our property, plant and equipment when such costs qualify for interest capitalization, which reduces the amount of net interest expense reported in any given period.

The following table shows interest expense, net for the three and six months ended **March 31, 2024** **June 30, 2024** and 2023:

(Dollars in thousands)																				
(Dollars in thousands)																				
(Dollars in thousands)		2024		2023		Three Month Change		2024		2023		Six Month Change								
Interest expense, net	Interest expense, net	\$ (9,765)	\$ (1,415)	\$ (8,350)	>500%	>500%	\$ (18,975)	\$ (2,163)	\$ (16,812)	>500%	>500%									
Interest expense, net																				
Interest expense, net																				

Interest expense, net for the three and six months ended **March 31, 2024** **June 30, 2024** increased compared to the three and six months ended **March 31, 2023** **June 30, 2023** primarily due to additional borrowing under various arrangements in India.

Other expense, (expense) income, net

Other expense, (expense) income, net is primarily comprised of miscellaneous items and realized gains and losses on the sale of marketable securities and restricted marketable securities.

The following table shows other expense, (expense) income, net for the three and six months ended **March 31, 2024** **June 30, 2024** and 2023:

(Dollars in thousands)																				
(Dollars in thousands)																				
(Dollars in thousands)		2024		2023		Three Month Change		2024		2023		Six Month Change								
Other expense, net																				
Other expense, net																				
Other expense, net																				
Other (expense) income, net		\$ (565)	\$ 997	\$ (1,562)	N/A	\$ (3,364)	\$ (459)	\$ (2,905)	>500%											

Other expense, (expense) income, net for the three and six months ended **March 31, 2024** **June 30, 2024** decreased compared to the three and six months ended **March 31, 2023** **June 30, 2023** primarily due to commitment fees on the Company's our Revolving Credit Facility.

Income tax (expense) benefit expense

Income tax expense or benefit, deferred tax assets and liabilities, and liabilities for unrecognized tax benefits reflect our best estimate of current and future taxes to be paid. We are subject to income taxes in both the United States and numerous foreign jurisdictions in which we operate, principally Singapore, Malaysia, Vietnam, and India. Significant judgments and estimates are required to determine our consolidated income tax expense. The statutory federal corporate income tax rate in the United States is 21%, and the tax rates in Singapore, Malaysia, Vietnam, and India are 17%, 24%, 20%, and 17%, respectively. In Malaysia, we have been granted a long-term tax holiday, scheduled to expire in 2027, pursuant to which substantially all of our income earned in Malaysia is exempt from income tax, conditional upon our continued compliance with certain employment and investment thresholds. In Vietnam, we have been granted a long-term tax incentive, scheduled to expire at the end of 2036, pursuant to which income earned in Vietnam is subject to reduced annual tax rates, conditional upon our continued compliance with certain revenue and R&D spending thresholds.

The following table shows income tax (expense) benefit expense for the three and six months ended **March 31, 2024** **June 30, 2024** and 2023:

(Dollars in thousands)																				
(Dollars in thousands)																				
(Dollars in thousands)		2024		2023		Three Month Change		2024		2023		Six Month Change								
Income tax (expense) benefit																				
Income tax (expense) benefit																				
Income tax (expense) benefit																				
Income tax expense		\$ (27,775)	\$ (17,892)	\$ (9,883)	55 %	\$ (46,678)	\$ (11,004)	\$ (35,674)	324 %											
Effective tax rate																				
Effective tax rate																				

Effective tax rate

Our tax rate is affected by the advanced manufacturing production credit under Section 45X and recurring items such as tax rates in foreign jurisdictions and the relative amounts of income we earn in those jurisdictions. The rate is also affected by discrete items that may occur in any given period but are not consistent from period to period. During the three months ended June 30, 2024, we reversed our position to indefinitely reinvest the accumulated earnings of a foreign subsidiary and recorded discrete tax expense of approximately \$6 million. There were no other changes to our indefinite reinvestment assertions during the quarter.

Income tax expense increased \$9.9 million during the three months ended June 30, 2024 compared to the three months ended June 30, 2023 primarily due to higher pretax income and the discrete tax expense associated with the reversal of our indefinite reinvestment assertion described above.

Income tax expense increased \$25.8 million \$35.7 million during the three six months ended March 31, 2024 June 30, 2024 compared to the three six months ended March 31, 2023 June 30, 2023 primarily due to higher pretax income in the current period and higher prior period lower excess tax benefits associated with share-based compensation.

Critical Accounting Policies and Estimates

In preparing our condensed consolidated financial statements in conformity with U.S. GAAP, we make estimates and assumptions that affect the amounts of reported assets, liabilities, revenues, and expenses, as well as the disclosure of contingent liabilities. Some of our accounting policies require the application of significant judgment in the selection of the appropriate assumptions for making these estimates. By their nature, these judgments are subject to an inherent degree of uncertainty. We base our judgments and estimates on our historical experience, our forecasts, and other available information as appropriate. We believe the judgments and estimates involved in accrued solar module collection and recycling, product warranties, and government grants have the greatest potential impact on our condensed consolidated financial statements. The actual results experienced by us may differ materially and adversely from our estimates. To the extent there are material differences between our estimates and the actual results, our future results of operations will be affected. For a description of the accounting policies that require the most significant judgment and estimates in the preparation of our condensed consolidated financial statements, refer to our Annual Report on Form 10-K for the year ended December 31, 2023. There have been no material changes to our accounting policies during the three six months ended March 31, 2024 June 30, 2024.

Recent Accounting Pronouncements

In December 2023, the Financial Accounting Standards Board issued Accounting Standards Update ("ASU") 2023-09, *Income Taxes (Topic 740) — Improvements to Income Tax Disclosures*, which requires greater disaggregation of an entity's income tax disclosures. Among other things, ASU 2023-09 requires entities to disclose (i) specific categories in the effective tax rate reconciliation, (ii) pretax income or loss from continuing operations, separated between domestic and foreign jurisdictions, (iii) income tax expense or benefit from continuing operations, separated by federal, state, and foreign jurisdictions, and (iv) income taxes paid to federal, state, and foreign jurisdictions. ASU 2023-09 is effective for public companies for annual periods beginning after December 15, 2024; although early adoption is permitted, we do not expect to do so. We are currently evaluating the impact ASU 2023-09 will have on our consolidated financial statements and associated disclosures.

Liquidity and Capital Resources

As of March 31, 2024 June 30, 2024, we believe that our cash, cash equivalents, marketable securities, cash flows from operating activities, and contracts with customers for the future sale of solar modules will be sufficient to meet our working capital and capital expenditure needs for at least the next 12 months. In addition, we have availability under our Revolving Credit Facility, under which we have made no borrowings is unused as of March 31, 2024 June 30, 2024. As necessary, we also believe we will have adequate access to the capital markets. We monitor our working capital to ensure we have adequate liquidity, both domestically and internationally. We intend to maintain appropriate debt levels based upon cash flow expectations, our overall cost of capital, and expected cash requirements for operations, including near-term construction activities and purchases of manufacturing equipment for our newest manufacturing and R&D facilities in the United States. However, our ability to raise capital on terms commercially acceptable to us could be constrained if there is insufficient lender or investor interest due to company-specific, industry-wide, or broader market concerns. Any incremental debt financings financing could result in increased debt service expenses and/or restrictive covenants, which could limit our ability to pursue our strategic plans.

As of March 31, 2024 June 30, 2024, we had \$2.0 billion \$1.7 billion in cash, cash equivalents, and marketable securities compared to \$2.1 billion as of December 31, 2023. This decrease was primarily driven by purchases of property, plant and equipment for our U.S. and Indian facilities, various operating expenditures, and certain advance payments of raw materials, partially offset by proceeds from borrowings under debt agreements and proceeds from the sale of Section 45X tax credits. credits and cash receipts from module sales As of March 31, 2024 June 30, 2024 and December 31, 2023, \$1.3 \$1.4 billion and \$1.2 billion of our cash, cash equivalents, and marketable securities, respectively, was held by our foreign subsidiaries and was primarily based in U.S. dollar denominated holdings. Our investment policy seeks to preserve our investment principal and maintain adequate liquidity to meet our cash flow requirements, while at the same time optimizing the return on our investments. Such policy applies to all invested funds, whether managed internally or externally. Pursuant to such policy, we place our investments with a diversified group of high-quality financial institutions and limit the concentration of such investments with any one counterparty. We place significant emphasis on the creditworthiness of financial institutions and assess the credit ratings and financial health of our counterparty financial institutions when making investment decisions.

We utilize a variety of tax planning and financing strategies in an effort to ensure that our worldwide cash is available in the locations in which it is needed. If certain international funds were needed for our operations in the United States, we may be required to accrue and pay certain U.S. and foreign taxes to repatriate such funds. We maintain the intent and ability to permanently reinvest our accumulated earnings outside the United States, with the exception of certain subsidiaries for which applicable income taxes have been recorded as of March 31, 2024 June 30, 2024. During the three months ended June 30, 2024, but we may choose reversed our position to reevaluate this intent in one or more jurisdictions indefinitely reinvest the accumulated earnings of a foreign subsidiary, allowing us to repatriate certain offshore funds to support our strategic investments in the future. In addition, United States. Accordingly, in July 2024, we repatriated \$1.0 billion of offshore funds. Our worldwide cash may also be affected by changes to foreign government banking regulations may that restrict our ability to move funds among various jurisdictions under certain circumstances, which could negatively impact our access to capital, resulting in an adverse effect on our liquidity and capital resources.

Although we compete in markets that do not require solar-specific government subsidies or support programs, such incentives continue to influence the demand for PV solar energy around the world. For example, the financial incentives provided by the IRA are expected to increase both the demand for, and the domestic manufacturing of, solar modules in the United States. We continue to evaluate the extent of benefits available to us by the IRA, which are expected to favorably impact our liquidity and capital resources in future periods. For example, we currently expect to qualify for the advanced manufacturing production credit under Section 45X of the IRC, which provides certain specified benefits for solar modules and solar module components manufactured in the United States and sold to third parties. Such credit may be refundable by the IRS or transferable to a third party and is available from 2023 to 2032, subject to phase down beginning in 2030. Based on the current form factor of our modules, we expect to qualify for a credit of approximately 17 cents per watt for each module produced in the United States and sold to a third party. Accordingly, we expect the advanced manufacturing production credit will provide us with a significant source of funding throughout its 10-year period. In December 2023, we entered into an agreement with Fiserv for the sale of \$687.2 million of Section 45X tax credits we generated during 2023 for aggregate cash proceeds of \$659.7 million. We received the full cash proceeds of \$480.0 million during the three six months ended March 31, 2024 and received the remaining cash proceeds of \$179.7 million in April 2024 June 30, 2024. For more information about certain risks associated with the benefits available to us under the IRA, see Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023. See Note 5. "Government Grants" to our condensed consolidated financial statements for further information about government grants.

As a result of various market opportunities and increased demand for our products, we commenced production of Series 7 modules at our third manufacturing facility in Ohio and our first manufacturing facility in India during 2023. We are in the process of expanding our manufacturing capacity, by approximately 7.6 GW, including the construction of our fourth and fifth manufacturing facilities in the United States, which are expected to commence operations in the second half halves of 2024 and late 2025, respectively, and the expansion of our manufacturing footprint at our existing facilities in Ohio, which is expected to be completed in the first half of 2024, respectively. In aggregate, we currently expect our remaining investment in these U.S. facilities and upgrades to be approximately \$1.6 \$1.4 billion, which we expect to incur throughout 2024 and 2025. The capital expenditures necessary to expand our capacity may be financed, in part, by cash on hand, advance payments from customers for module sales in future periods, the advanced manufacturing production credit described above, and/or near-term bridge financing instruments.

In addition to the expansion plans described above, we continue to increase the nameplate production capacity of our existing manufacturing facilities by improving our production throughput, increasing module wattage, (or conversion efficiency), and reducing manufacturing yield losses. We have a demonstrated history of innovation, continuous improvement, and manufacturing success driven by our significant investments in various R&D initiatives. We continue to invest significant financial resources in such initiatives, including the completion of a dedicated R&D facility innovation center in the United States to support the implementation of our technology roadmap. We expect such R&D This facility to feature features a high-tech pilot manufacturing line, allowing for which is expected to enable the production of full-sized prototypes of thin film and multi-junction tandem PV modules. Such R&D facility is expected to be completed was commissioned in the first half of July 2024. During 2024, we expect to spend between \$1.8 billion and \$2.0 billion for capital expenditures, including the new facilities mentioned above, and upgrades to machinery and equipment that we believe will further increase our module wattage and expand capacity and throughput at our manufacturing facilities. These capital investments, and any other potential investments to implement our technology roadmap, may require significant internal and possibly external sources of capital, and may be subject to certain risks and uncertainties described in Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023.

We have also committed and expect to continue committing significant working capital to purchase various raw materials used in our module manufacturing process. Our failure to obtain raw materials and components that meet our quality, quantity, and cost requirements in a timely manner could interrupt or impair our ability to manufacture our solar modules or increase our manufacturing costs. Accordingly, we may enter into long-term supply agreements to mitigate potential risks related to the procurement of key raw materials and components, and such agreements may be noncancelable or cancelable with a significant penalty. For example, we have entered into long-term supply agreements for the purchase of certain specified minimum volumes of substrate glass and cover glass for our PV solar modules. We have the right to terminate certain of these agreements upon payment of specified termination penalties (which, in aggregate, are up to \$535 \$518.5 million as of March 31, 2024 June 30, 2024 and decline over the remaining supply periods). Additionally, for certain strategic suppliers, we have made, and may in the future be required to make, certain advance payments to secure the raw materials necessary for our module manufacturing.

We have also committed certain financial resources to fulfill our solar module collection and recycling obligations and have established a trust under which these funds are put into custodial accounts with an established and reputable bank. As of March 31, 2024 June 30, 2024, such funds were comprised of restricted marketable securities of \$194.5 \$200.2 million and associated restricted cash and cash equivalents balances of \$9.0 \$1.8 million. As of March 31, 2024 June 30, 2024, our module collection and recycling liability was \$134.3 \$134.8 million. Trust funds may be disbursed for qualified module collection and recycling costs (including capital and facility related recycling costs), payments to customers for assuming collection and recycling obligations, and reimbursements of any overfunded amounts. Investments in the trust must meet certain investment quality criteria comparable to highly rated government or agency bonds. As necessary, we adjust the funded amounts for our estimated collection and recycling obligations based on the estimated costs of collecting and recycling covered modules, estimated rates of return on our restricted marketable securities, and an estimated solar module life of 25 years, less amounts already funded in prior years.

As of **March 31, 2024** **June 30, 2024**, we had no off-balance sheet debt or similar obligations, other than financial assurance related instruments, which are not classified as debt. We do not guarantee any third-party debt. See Note 10. "Commitments and Contingencies" to our condensed consolidated financial statements for further information about our financial assurance related instruments.

Cash Flows

The following table summarizes key cash flow activity for the **three** **six** months ended **March 31, 2024** **June 30, 2024** and 2023 (in thousands):

	Three Months Ended		Six Months Ended	
	March 31,		June 30,	
	2024	2023	2024	2023
Net cash provided by (used in) operating activities				
Net cash used in investing activities				
Net cash provided by financing activities				
Net cash (used in) provided by financing activities				
Effect of exchange rate changes on cash, cash equivalents, restricted cash, and restricted cash equivalents				
Net decrease in cash, cash equivalents, restricted cash, and restricted cash equivalents				

Operating Activities

The increase in net cash provided by operating activities was primarily driven by proceeds from sale of Section 45X **credits and higher cash receipts from module sales in current period, partially offset by lower advance payments received for future module sales and increased payments made to suppliers in the current period, credits.**

Investing Activities

The decrease in net cash used in investing activities was primarily due to lower purchases of marketable securities in the current **period and net cash paid for a business acquisition in the prior** period, partially offset by higher purchases of property, plant and equipment in the current period for our U.S. and Indian facilities.

Financing Activities

The decrease in net cash provided by financing activities was primarily due to lower net **borrowings borrowing** under various debt agreements in the current period.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

There have been no material changes to the information previously provided under Item 7A. of our Annual Report on Form 10-K for the year ended December 31, 2023.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of our "disclosure controls and procedures" as defined in Exchange Act Rule 13a-15(e) and 15d-15(e). Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that as of **March 31, 2024** **June 30, 2024** our disclosure controls and procedures were effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

We also carried out an evaluation, under the supervision and with the participation of management, including our Chief Executive Officer and Chief Financial Officer, of our "internal control over financial reporting" as defined in Exchange Act Rule 13a-15(f) and 15d-15(f) to determine whether any changes in our internal control over financial reporting occurred during the three months ended **March 31, 2024** **June 30, 2024** that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Based on that evaluation, there were no such changes in our internal control over financial reporting that occurred during the three months ended **March 31, 2024** **June 30, 2024**.

CEO and CFO Certifications

We have attached as exhibits to this Quarterly Report on Form 10-Q the certifications of our Chief Executive Officer and Chief Financial Officer, which are required in accordance with the Exchange Act. We recommend that this Item 4. be read in conjunction with those certifications for a more complete understanding of the subject matter presented.

Limitations on the Effectiveness of Controls

Control systems, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control systems' objectives are being met. Further, the design of any system of controls must reflect the fact that there are resource constraints, and the benefits of all controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty and that breakdowns can occur because of error or mistake. Control systems can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is also based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

See Note 10. "Commitments and Contingencies" under the heading "Legal Proceedings" of our condensed consolidated financial statements for legal proceedings and related matters.

Item 1A. Risk Factors

In addition to the other information set forth in this report, you should carefully consider the factors discussed in Item 1A. "Risk Factors" of our Annual Report on Form 10-K for the year ended December 31, 2023, which could materially affect our business, financial condition, results of operations, or cash flows. The risks described in our Annual Report on Form 10-K are not the only risks we face. Additional risks and uncertainties not currently known to us or that we currently consider immaterial may also materially adversely affect our business, financial condition, results of operations, or cash flows. There have been no material changes in the risk factors contained in our Annual Report on Form 10-K.

Item 5. Other Information

From time to time, our directors and officers may adopt plans for the purchase or sale of our securities. Such plans may be designed to satisfy the affirmative defense conditions of Rule 10b5-1 under the Exchange Act or may constitute non-Rule 10b5-1 trading arrangements (as defined in Item 408(c) of Regulation S-K). During the three months ended **March 31, 2024** **June 30, 2024**, none of our officers or directors adopted or terminated non-Rule 10b5-1 trading arrangements. However, certain of our officers adopted Rule 10b5-1 trading plans for the sale of our securities. The following table provides certain terms of such plans:

Name	Position	Action	Adoption Date	Expiration Date	Aggregate Number of Securities to be Sold (1)
Alexander R. BradleyByron Jeffers	Chief Financial Accounting Officer	Adoption	March 1, May 9, 2024	October 31, 2024	16,051
Michael Koralewski	Chief Supply Chain Officer	Adoption	March 1, 2024	February 28, April 30, 2025	6,022
Mark R. Widmar	Chief Executive Officer	Adoption	March 4, 2024	March 4, 2025	65,576
Jason Dymbort	General Counsel & Secretary	Adoption	March 5, 2024	March 5, 2025	2,308
Kuntal Kumar Verma	Chief Manufacturing Officer	Adoption	March 6, 2024	July 31, 2024	1,621
Patrick Buehler	Chief Product Officer	Adoption	March 6, 2024	January 31, 2025	9,587 2,266

- (1) Represents the gross number of shares subject to the Rule 10b5-1(c) plan, excluding the potential effect of shares withheld for taxes. Amounts related to PUs are presented at their target amounts. The actual number of PUs that vest following the end of the applicable performance period, if any, will depend on the relative attainment of the performance metrics.

Item 6. Exhibits

The following exhibits are filed with this Quarterly Report on Form 10-Q:

Exhibit Number	Exhibit Description
3.1	Amended and Restated Certificate of Incorporation of First Solar, Inc. (incorporated by reference to Exhibit 3.1 to First Solar, Inc.'s Registration Statement on Form S-1 filed on October 25, 2006).
3.2	Amended and Restated Bylaws of First Solar, Inc. (incorporated by reference to Exhibit 3.1 to First Solar, Inc.'s Form 8-K filed on July 26, 2023) May 9, 2024)
10.1*	Form of Grant Notice for 2024-2026 Executive Performance Equity Plan Amendment No.1 to Guaranty Agreement dated June 21, 2024, between First Solar, Inc. and United States International Development Finance Corporation
31.1*	Certification of Chief Executive Officer pursuant to 15 U.S.C. Section 7241, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Chief Financial Officer pursuant to 15 U.S.C. Section 7241, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1†	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
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	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document
104	Cover page formatted as Inline XBRL and contained in Exhibit 101

* Filed herewith.

† Furnished herewith. This exhibit shall not be deemed "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, whether made before or after the date hereof and irrespective of any general incorporation language in such filings.

SIGNATURE

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.

FIRST SOLAR, INC.

Date: May 1, 2024 July 30, 2024

By: /s/ BYRON JEFFERS

Name: Byron Jeffers

Title: Chief Accounting Officer

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Execution Version

EXHIBIT 10.1

Executive Performance Equity Plan Execution Version

GRANT NOTICE

AMENDMENT NO. 1 TO GUARANTY AGREEMENT

This Grant Notice sets forth AMENDMENT NO. 1 TO GUARANTY AGREEMENT (this "Amendment"), dated as of June 21, 2024, is by and between:

(1) FIRST SOLAR INC., a Delaware corporation (the "Guarantor"); and

(2) UNITED STATES INTERNATIONAL DEVELOPMENT FINANCE CORPORATION, an agency of the economic terms United States of America ("DFC").

WHEREAS:

- (1) FS India Solar Ventures Private Limited, a Performance Unit Award granted private limited company organized and existing under the First Solar, Inc. 2020 Omnibus Incentive Compensation Plan laws of the Republic of India with CIN U29308DL2020FTC371690 (the "Plan Borrower"). This Grant Notice, together with, and DFC have entered into a Finance Agreement, dated as of July 27, 2022, as amended by that certain Amendment No. 1 to Finance Agreement, dated as of August 5, 2022, and as further amended by that certain Waiver and Amendment No. 2 to Finance Agreement, dated as of April 18, 2024 (as further amended, restated, supplemented or otherwise modified and in effect from time to time prior to the Performance Unit Award Agreement Form Perf Unit-016 ("date hereof, the "Performance Unit Award Finance Agreement") (the;
- (2) the Guarantor and DFC have entered into that certain Guaranty Agreement, dated as of August 4, 2022 (as amended, restated, supplemented or otherwise modified and in effect from time to time prior to the date hereof, the "Agreement"), pursuant to which the Guarantor has agreed, among other things, to guarantee the obligations of the Borrower under the Finance Agreement;
- (3) the Guarantor and DFC desire to amend the Agreement to require the Guarantor to maintain a Current Ratio of no less than 1.50 to 1.00, in replacement of the existing requirement to maintain a Current Ratio of no less than 2.50 to 1.00, subject to the terms and conditions contained in this Amendment; and
- (4) capitalized terms used but not otherwise defined in this Amendment shall have the respective meanings set forth in Section 1(a) of the Agreement, and the rules of interpretation set forth in Section 1(b) of the Agreement shall apply to this Amendment as if fully set forth herein.

NOW, THEREFORE, in consideration of the premises and of the agreements contained herein and other good and valuable consideration, the receipt and sufficiency of which are incorporated into this Grant Notice hereby acknowledged, the parties hereto agree as follows:

1. Amendments. Section 8(e)(iii) of the Agreement is amended by reference), constitute deleting the Award existing section and replacing it with the following:

"(iii) at all times and on a Consolidated Basis, a Current Ratio of no less than 1.50 to 1.00."

Amendment No. 1 to Guaranty Agreement for this Performance Unit Award under
(DFC/FSLR)

2. Representations. The Guarantor represents and warrants that the Executive Performance Equity Plan. Capitalized terms used in this Grant Notice that are not defined in this Grant Notice have representations and warranties of the meanings as used or defined Guarantor set forth in the Performance Unit Award Agreement are true and correct in all material respects (except with respect to any provision including the word "material" or words of similar import, with respect to which such representations and warranties are true and correct) as of the date hereof, or if not defined therein, any such representation relates exclusively to an earlier date, as of such earlier date.

3. Miscellaneous.

(a) No Other Amendments. Except as specifically amended by Section 1 (Amendments) of this Amendment, all of the Plan. Additionally, terms, conditions and provisions of the 2020 Omnibus Plan Prospectus is available Agreement shall remain unaltered and in full force and effect and are hereby ratified and confirmed.

(b) Effect of Amendment. Upon the effectiveness of this Amendment as provided in clause (c) below, each reference in the Agreement to "this Agreement," "hereunder," "hereof," "herein," or any other word or words of similar import, shall mean and be a reference to the Agreement as amended hereby, and each reference in any other document to the "Finance Agreement" or any word or words of similar import referring to the Agreement shall mean and be a reference to the Agreement as amended hereby.

(c) Counterparts: Effectiveness. This Amendment may be executed and delivered in counterparts, each of which when so executed and delivered shall be deemed an original, and all of which together shall constitute one and the same instrument. This Amendment shall become effective when it shall have been executed by each party hereto and when DFC shall have received counterparts hereof that, when taken together, bear the signatures of the other parties hereto. Delivery of an executed counterpart of a signature page of this Amendment in an electronic format (including .pdf, .tif, and .jpeg file format) shall be effective as delivery of a manually executed counterpart of this Amendment. The words "execution", "signed", "signature" and words of like import shall be deemed to include electronic signatures or the keeping of records in electronic form, each of which shall be of the same legal effect, validity, or enforceability as a manually executed signature or the use of a paper-based recordkeeping system, as the case may be, to the extent and as provided for viewing in any Applicable Law, including the Federal Electronic Signatures in Global and National Commerce Act, 15 U.S.C. §§ 7001 to 7006, 7021, 7031; the New York State Electronic Signatures and Records Act, NY State Tech. Law § 301; or any other similar state laws based on the First Solar POWER site, Uniform Electronic Transactions Act.

(d) GOVERNING LAW. THIS AMENDMENT AND ANY CLAIM, CONTROVERSY, DISPUTE, OR CAUSE OF ACTION (WHETHER IN CONTRACT, TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AMENDMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK, UNITED STATES OF AMERICA, WITHOUT REGARD TO CONFLICT OF LAW PRINCIPLES THAT WOULD OTHERWISE DIRECT APPLICATION OF THE LAW OF ANOTHER JURISDICTION.

[Signature pages follow]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed as of the date first above written.

FIRST SOLAR, INC.

By:

Name:

Title:

Participant: UNITED STATES INTERNATIONAL DEVELOPMENT
FINANCE CORPORATION

By:

Target #

Performance

Units:

Grant Date:

Performance Period: [Start Date] – [End Date]

Vesting

Conditions: The number of Performance Units that vests is subject
to the level of achievement of the following
performance goals during the Performance Period
(the "Performance-Vesting Conditions"):

Name:

Performance Level	Threshold (50%)	Target (100%)	Maximum (200%)	Weighting
[Metric 1]				
[Metric 2]				
[Metric 3]				
[Metric 4]				
[Metric 5]				
[Metric 6]				[Title]:

The final number of Performance Units actually awarded following the end of the Performance Period, if any, shall be based on the weighted attainment of specified levels of the Performance-Vesting Conditions, and may range between 0% and 200% of the number of target Performance Units. More specifically, 0% of the target Performance Units shall be earned upon less than threshold performance achievement; 50% of the target Performance Units shall be earned upon threshold performance achievement, 100% of target Performance Units shall be earned upon target performance achievement and 200% of target Performance Units shall be earned upon maximum performance achievement (with linear interpolation between threshold and target performance achievement and between target and maximum performance achievement). Each Performance Unit represents the right to receive one share of the Company's common stock, no par value per share (" (DFC/FSLR)Share").

In determining achievement of the Performance-Vesting Conditions, the Committee may make such adjustments as it deems appropriate, including adjustments to performance metrics for events or circumstances as determined by the Committee. Further, the Committee may, in its sole discretion, reduce the number of Performance Units actually delivered hereunder even if the Performance-Vesting Conditions are achieved.

This Award shall not vest unless the Participant is continuously employed by the Company or an Affiliate through the settlement date following the end of the Performance Period, unless the Participant is eligible for a *pro rata* settlement as provided for in the Forfeiture section below.

Vesting Acceleration upon a Change in Control:

Award is Assumed or Substituted. Upon the occurrence of a Change in Control (as defined in the Change of Control Severance Agreement between the Participant and the Company ("CIC Agreement")) that occurs during the Performance Period in which the acquirer assumes or substitutes the Performance Units, the Performance Units shall remain eligible to vest in accordance with the vesting provisions described above (including the Performance-Vesting Conditions, subject to adjustments as permitted under Section 4(b) of the Plan or Section 10 of the Performance Unit Award Agreement); provided, however, if, within the 24-month period following such Change in Control, the Participant's employment with the Company and its Affiliates is terminated (1) by the Company or one of its Affiliates without Cause (as defined in the CIC Agreement) or (2) by the Participant for Good Reason (as defined in the CIC Agreement), then the number of Performance Units determined based on the greater of (x) target or (y) actual achievement of the applicable Performance-Vesting Conditions as of the last day of the quarter preceding the date of termination shall become vested as of the date of such termination of employment, and promptly settled within 60 days following such date. This Award shall expire and be forfeited with respect to the unvested portion thereof if the applicable Performance-Vesting Conditions are not satisfied as of such date of termination.

Award is Not Assumed or Substituted. Upon the occurrence of a Change in Control in which the acquirer does not assume or substitute the Performance Units, the Performance Units shall be deemed immediately vested at the greater of (x) target or (y) actual achievement of the applicable Performance-Vesting Conditions as of the last day of the quarter preceding the Change in Control, and shall be promptly settled within 60 days following the Change in Control.

Coordination with CIC Agreement. For the avoidance of doubt, the provisions of Section 3 "Impact of a Change in Control on Equity Compensation Awards" in the CIC Agreement shall not apply to this Award.

Forfeiture:

This Award shall be forfeited, with no consideration, upon termination of the Participant's employment provided, however that if such termination of employment occurs (x) on account of the Participant's death, (y) by the Company due to Disability (defined below), or (z) by the Participant due to a Retirement (defined below) occurring following the end of the first calendar year of the Performance Period, then the Participant shall be eligible for a *pro rata* settlement as described in the Settlement section below.

For this purpose, "Disability" shall have the meaning ascribed to such term (or term of similar import) in the employment agreement between the Participant and the Company, as in effect at the relevant time. "Retirement" shall mean the Participant's voluntary termination of employment provided that the Participant has (i) attained age fifty-five (55) or older as of the date of such termination and (ii) completed a minimum of ten (10) years of service as of the date of such termination. Notwithstanding anything to the contrary herein, if the Participant's employment is terminated due to a Retirement occurring following the end of the first calendar year of the Performance Period, the Participant shall be eligible for a *pro rata* settlement only if the Participant complies with the restrictive covenants set forth in the Non-Solicitation and Non-Competition Agreement by and between the Company and the Participant, as in effect on the date of such termination of employment through the settlement date of this Award.

Further, this Award shall expire and be forfeited with respect to the unvested portion thereof if the threshold Performance-Vesting Condition is not satisfied with respect to the Performance Period. For greater clarity, notwithstanding anything to the contrary herein, in the Performance Unit Award Agreement, or in any employment or other agreement between the Participant and the Company, no portion of this Award shall accelerate upon termination of the Participant's employment other than as expressly provided in this Grant Notice.

Settlement of Award:

Full Settlement: Where the Participant is eligible for *full* settlement of this Award or any portion thereof, as soon as administratively practicable following the vesting of this Award but in any event on or prior to March 15th of the calendar year following the end of the Performance Period, the Participant shall receive one fully vested Share for each vested Performance Unit.

Pro Rata Settlement: Where the Participant is eligible for a *pro rata* settlement of this Award or any portion thereof because the Participant experienced a termination of employment described above prior to the settlement date, such *pro rata* portion shall be determined by multiplying (i) the number of Performance Units that would have vested based on actual achievement of the Performance-Vesting Conditions had the Participant remained employed until the settlement date by (ii) a fraction, (a) the numerator of which is the number of days the Participant was employed by the Company during the Performance Period up to the date of termination, and (b) the denominator of which is the number of days from and after the first day of the Performance Period through the end of the Performance Period, *rounding up* to the next whole Performance Unit. Such *pro rata* portion of the Performance Units shall be settled in Shares, on a one-for-one basis, as soon as administratively practicable following the vesting of this Award but in any event on or prior to March 15th of the calendar year following the end of the Performance Period. If the Participant becomes eligible for a *pro rata* settlement of this Award, then upon *pro rata* settlement the remainder of this Award shall be forfeited.

Settlement of Taxes:

Vesting and settlement of the Performance Units shall be subject to the Participant satisfying any applicable federal, state and local tax withholding obligations and non-U.S. tax withholding obligations. The amount of any withholding taxes in respect of the Performance Units shall be satisfied by having the Company withhold from the number of Performance Units payable to the Participant under this Award a number of Shares having a fair market value equal to such required tax withholding obligations. If, for any reason, the Shares that would otherwise be deliverable to the Participant upon settlement of the Performance Units would be insufficient to satisfy the tax withholding obligations, the Company and any of its Subsidiaries are authorized to withhold an amount from the Participant's wages or other compensation sufficient to fully satisfy the tax withholding obligations.

Clawback:

Pursuant to Section 9(s) of the Plan, this Award is subject to potential forfeiture or clawback to the fullest extent called for by Company policy or applicable law. By accepting this Award, the Participant agrees to be bound by, and to comply with, the terms of any such forfeiture or clawback provisions, including but not limited to, the terms of the First Solar, Inc. Clawback Policy, or any successor thereto.

Signature

Date

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 15 U.S.C. SECTION 7241, AS
ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Mark R. Widmar, certify that:

- (1) I have reviewed the Quarterly Report on Form 10-Q of First Solar, Inc., a Delaware corporation, for the period ended **March 31, 2024** **June 30, 2024**, as filed with the Securities and Exchange Commission;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of and for, the periods presented in this report;
- (4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- (5) The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

May 1, July 30, 2024

By: /s/ MARK R. WIDMAR
Name: Mark R. Widmar
Title: Chief Executive Officer

EXHIBIT 31.2

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 15 U.S.C. SECTION 7241, AS
ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Alexander R. Bradley, certify that:

- (1) I have reviewed the Quarterly Report on Form 10-Q of First Solar, Inc., a Delaware corporation, for the period ended March 31, 2024 June 30, 2024, as filed with the Securities and Exchange Commission;
- (2) Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
- (3) Based on my knowledge, the financial statements and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of and for, the periods presented in this report;
- (4) The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an Annual Report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
- (5) The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

May 1, July 30, 2024

By: /s/ ALEXANDER R. BRADLEY
Name: Alexander R. Bradley
Title: Chief Financial Officer

EXHIBIT 32.1

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

In connection with the Quarterly Report on Form 10-Q of First Solar, Inc., a Delaware corporation, for the period ended March 31, 2024 June 30, 2024, as filed with the Securities and Exchange Commission, each of the undersigned officers of First Solar, Inc. certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his respective knowledge:

- (1) the quarterly report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
- (2) the information contained in the quarterly report fairly presents, in all material respects, the financial condition and results of operations of First Solar, Inc. for the periods presented therein

May 1, July 30, 2024

By: /s/ MARK R. WIDMAR
Name: Mark R. Widmar
Title: Chief Executive Officer

May 1, July 30, 2024

By: /s/ ALEXANDER R. BRADLEY
Name: Alexander R. Bradley
Title: Chief Financial Officer

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