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, 2019

OR

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

Commission File Number: 001-37511

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

Delaware	26-2841711
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

595 Market Street, 29th Floor
San Francisco, California 94105
(Address of principal executive offices and Zip Code)

(415) 580-6900
(Registrant's telephone number, including area code)

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

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

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

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

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

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

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

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

As of May 6, 2019, the number of shares of the registrant's common stock outstanding was 115,130,399.

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Sunrun Inc.
Consolidated Balance Sheets
(In Thousands, Except Share Par Values)
(Unaudited)

	March 31, 2019	December 31, 2018
Assets		
Current assets:		
Cash	$ 245,604	$ 226,625
Restricted cash	64,182	77,626
Accounts receivable (net of allowances for doubtful accounts of $2,282 and $2,228 as of March 31, 2019 and December 31, 2018, respectively)	67,522	66,435
State tax credits receivable	—	2,697
Inventories	76,184	79,467
Prepaid expenses and other current assets	9,568	8,563
Total current assets	463,060	461,413
Restricted cash	148	148
Solar energy systems, net	3,976,504	3,820,017
Property and equipment, net	35,281	34,893
Intangible assets, net	9,195	10,088
Goodwill	87,543	87,543
Other assets	367,951	335,685
Total assets (1)	$ 4,939,682	$ 4,749,787
Liabilities and total equity		
Current liabilities:		
Accounts payable	$ 105,977	$ 131,278
Distributions payable to noncontrolling interests and redeemable noncontrolling interests	15,628	15,847
Accrued expenses and other liabilities	103,764	98,636
Deferred revenue, current portion	55,795	47,407
Deferred grants, current portion	7,961	7,885
Finance lease obligations, current portion	9,459	9,193
Non-recourse debt, current portion	26,937	35,484
Pass-through financing obligation, current portion	11,281	26,461
Total current liabilities	336,802	372,191
Deferred revenue, net of current portion	637,666	544,218
Deferred grants, net of current portion	219,583	221,739
Finance lease obligations, net of current portion	10,246	9,992
Recourse debt	239,035	247,000
Non-recourse debt, net of current portion	1,558,250	1,466,438
Pass-through financing obligation, net of current portion	329,501	337,282
Other liabilities	84,068	48,210
Deferred tax liabilities	84,804	93,633
Total liabilities (1)	3,499,955	3,340,703
Commitments and contingencies (Note 15)		
Redeemable noncontrolling interests	137,616	126,302
Stockholders' equity:		
Preferred stock, $0.0001 par value—authorized, 200,000 shares as of March 31, 2019 and December 31, 2018; no shares issued and outstanding as of March 31, 2019 and December 31, 2018	—	—
Common stock, $0.0001 par value—authorized, 2,000,000 shares as of March 31, 2019 and December 31, 2018; issued and outstanding, 114,739 and 113,149 shares as of March 31, 2019 and December 31, 2018, respectively	11	11
Additional paid-in capital	730,126	722,429
Accumulated other comprehensive loss	(21,866)	(3,124)
Retained earnings	216,269	229,391
Total stockholders' equity	924,540	948,707
Noncontrolling interests	377,571	334,075
Total equity	1,302,111	1,282,782
Total liabilities, redeemable noncontrolling interests and total equity	$ 4,939,682	$ 4,749,787

1) The Company's consolidated assets as of March 31, 2019 and December 31, 2018 include $2,981,910 and $2,905,295, respectively, in assets of variable interest entities ("VIEs") that can only be used to settle obligations of the VIEs. These assets include solar energy systems, net, as of March 31, 2019 and December 31, 2018 of $2,761,312 and $2,712,377, respectively; cash as of March 31, 2019 and December 31, 2018 of $135,548 and $105,494, respectively; restricted cash as of March 31, 2019 and December 31, 2018 of $969 and $2,071, respectively; accounts receivable, net as of March 31, 2019 and December 31, 2018 of $16,988 and $18,539, respectively; prepaid expenses and other current assets as of March 31, 2019 and December 31, 2018 of $386 and $387, respectively; and other assets as of March 31, 2019 and December 31, 2018 of $66,707 and $66,427, respectively. The Company's consolidated liabilities as of March 31, 2019 and December 31, 2018 include $701,595 and $660,758, respectively, in liabilities of VIEs whose creditors have no recourse to the Company. These liabilities include accounts payable as of March 31, 2019 and December 31, 2018 of $10,979 and $12,136, respectively; distributions payable to noncontrolling interests and redeemable noncontrolling interests as of March 31, 2019 and December 31, 2018 of $15,545 and $15,797, respectively; accrued expenses and other current liabilities as of March 31, 2019 and December 31, 2018 of $7,315 and $7,122, respectively; deferred revenue as of March 31, 2019 and December 31, 2018 of $438,765 and $396,920, respectively; deferred grants as of March 31, 2019 and December 31, 2018 of $28,964 and $29,229, respectively; non-recourse debt as of March 31, 2019 and December 31, 2018 of $189,294 and $190,711, respectively; and other liabilities as of March 31, 2019 and December 31, 2018 of $10,733 and $8,843, respectively.

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

Sunrun Inc.
Consolidated Statements of Operations
(In Thousands, Except Per Share Amounts)
(Unaudited)

	Three Months Ended March 31,	
	2019	2018
Revenue:		
Customer agreements and incentives	$ 99,850	$ 66,990
Solar energy systems and product sales	94,654	77,373
Total revenue	194,504	144,363
Operating expenses:		
Cost of customer agreements and incentives	69,493	54,576
Cost of solar energy systems and product sales	77,799	64,579
Sales and marketing	55,953	44,079
Research and development	5,474	3,896
General and administrative	29,063	32,893
Amortization of intangible assets	893	1,051
Total operating expenses	238,675	201,074
Loss from operations	(44,171)	(56,711)
Interest expense, net	41,340	28,198
Other expenses (income), net	4,756	(1,692)
Loss before income taxes	(90,267)	(83,217)
Income tax (benefit) expense	(3,361)	8,203
Net loss	(86,906)	(91,420)
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(73,044)	(119,452)
Net (loss) income attributable to common stockholders	$ (13,862)	$ 28,032
Net (loss) income per share attributable to common stockholders		
Basic	$ (0.12)	$ 0.26
Diluted	$ (0.12)	$ 0.25
Weighted average shares used to compute net (loss) income per share attributable to common stockholders		
Basic	113,912	107,449
Diluted	113,912	110,781

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

Sunrun Inc.
Consolidated Statements of Comprehensive (Loss) Income
(In Thousands)
(Unaudited)

	Three Months Ended March 31,	
	2019	2018
Net (loss) income attributable to common stockholders	$ (13,862)	$ 28,032
Other comprehensive (loss) income:		
Unrealized (loss) gain on derivatives, net of income taxes	(17,013)	16,171
Interest expense on derivatives recognized into earnings, net of income taxes	(989)	(1,233)
Other comprehensive (loss) income	(18,002)	14,938
Comprehensive (loss) income	$ (31,864)	$ 42,970

Sunrun Inc.
Consolidated Statements of Redeemable Noncontrolling Interests and Stockholders' Equity
(In Thousands)
(Unaudited)

Three Months Ended March 31, 2018

	Redeemable Noncontrolling Interests	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
		Shares	Amount	Shares	Amount						
Balance at December 31, 2017	$ 123,801	—	$ —	107,350	$ 11	$ 682,950	$ (4,113)	$ 202,734	$ 881,582	$ 358,934	$ 1,240,516
Exercise of stock options	—	—	—	443	—	1,908	—	—	1,908	—	1,908
Issuance of restricted stock units, net of tax withholdings	—	—	—	888	—	(2,484)	—	—	(2,484)	—	(2,484)
Stock-based compensation	—	—	—	—	—	10,703	—	—	10,703	—	10,703
Contributions from noncontrolling interests and redeemable noncontrolling interests	31,103	—	—	—	—	—	—	—	—	112,501	112,501
Distributions to noncontrolling interests and redeemable noncontrolling interests	(2,608)	—	—	—	—	—	—	—	—	(14,206)	(14,206)
Net (loss) income	(18,772)	—	—	—	—	—	—	28,032	28,032	(100,680)	(72,648)
Other comprehensive loss, net of taxes	—	—	—	—	—	—	14,938	—	14,938	—	14,938
Balance - March 31, 2018	$ 133,524	—	$ —	108,681	$ 11	$ 693,077	$ 10,825	$ 230,766	$ 934,679	$ 356,549	$ 1,291,228

Three Months Ended March 31, 2019

	Redeemable Noncontrolling Interests	Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
		Shares	Amount	Shares	Amount						
Balance at December 31, 2018	$ 126,302	—	$ —	113,149	$ 11	$ 722,429	$ (3,124)	$ 229,391	$ 948,707	$ 334,075	$ 1,282,782
Cumulative effect of adoption of new ASU (No. 2018-02)	—	—	—	—	—	—	(740)	740	—	—	—
Exercise of stock options	—	—	—	1,139	—	4,279	—	—	4,279	—	4,279
Issuance of restricted stock units, net of tax withholdings	—	—	—	451	—	(3,442)	—	—	(3,442)	—	(3,442)
Stock-based compensation	—	—	—	—	—	5,783	—	—	5,783	—	5,783
Contributions from noncontrolling interests and redeemable noncontrolling interests	31,610	—	—	—	—	—	—	—	—	120,539	120,539
Distributions to noncontrolling interests and redeemable noncontrolling interests	(3,126)	—	—	—	—	—	—	—	—	(15,103)	(15,103)
Net (loss) income	(17,170)	—	—	—	—	—	—	(13,862)	(13,862)	(55,874)	(69,736)
Acquisition of noncontrolling interest	—	—	—	—	—	1,077	—	—	1,077	(6,066)	(4,989)
Other comprehensive loss, net of taxes	—	—	—	—	—	—	(18,002)	—	(18,002)	—	(18,002)
Balance - March 31, 2019	$ 137,616	—	$ —	114,739	$ 11	$ 730,126	$ (21,866)	$ 216,269	$ 924,540	$ 377,571	$ 1,302,111

Sunrun Inc.
Consolidated Statements of Cash Flows
(In Thousands)
(Unaudited)

	Three Months Ended March 31,	
	2019	2018
Operating activities:		
Net loss	$ (86,906)	$ (91,420)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:		
Depreciation and amortization, net of amortization of deferred grants	43,661	36,186
Deferred income taxes	(3,361)	8,203
Stock-based compensation expense	5,783	10,694
Interest on pass-through financing obligations	6,472	3,099
Reduction in pass-through financing obligations	(9,986)	(5,028)
Other noncash losses and expenses	1,489	5,667
Changes in operating assets and liabilities:		
Accounts receivable	(147)	6,217
Inventories	3,283	6,525
Prepaid and other assets	(35,868)	(13,323)
Accounts payable	(22,577)	(12,982)
Accrued expenses and other liabilities	7,724	(7,048)
Deferred revenue	101,848	7,456
Net cash provided by (used in) operating activities	11,415	(45,754)
Investing activities:		
Payments for the costs of solar energy systems	(198,880)	(163,190)
Purchases of property and equipment	(2,517)	(1,521)
Net cash used in investing activities	(201,397)	(164,711)
Financing activities:		
Proceeds from state tax credits, net of recapture	2,604	(49)
Proceeds from issuance of recourse debt	40,000	2,000
Repayment of recourse debt	(47,965)	(2,000)
Proceeds from issuance of non-recourse debt	181,652	95,900
Repayment of non-recourse debt	(99,248)	(7,122)
Payment of debt fees	(2,654)	(3,880)
Proceeds from pass-through financing and other obligations	1,785	1,502
Early repayment of pass-through financing obligation	(7,597)	—
Payment of finance lease obligations	(3,001)	(2,113)
Contributions received from noncontrolling interests and redeemable noncontrolling interests	152,149	143,604
Distributions paid to noncontrolling interests and redeemable noncontrolling interests	(18,447)	(15,263)
Acquisition of noncontrolling interest	(4,600)	—
Proceeds from exercises of stock options, net of withholding taxes paid on restricted stock units	839	(576)
Net cash provided by financing activities	195,517	212,003
Net change in cash and restricted cash	5,535	1,538
Cash and restricted cash, beginning of period	304,399	241,790
Cash and restricted cash, end of period	$ 309,934	$ 243,328
Supplemental disclosures of cash flow information		
Cash paid for interest	$ 20,058	$ 16,446
Cash paid for taxes	$ —	$ —
Supplemental disclosures of noncash investing and financing activities		
Purchases of solar energy systems and property and equipment included in accounts payable and accrued expenses	$ 24,303	$ 17,233
Right-of-use assets obtained in exchange for new finance lease liabilities	$ 3,543	$ 99

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

Note 1. Organization

Sunrun Inc. (“Sunrun” or the “Company”) was originally formed in 2007 as a California limited liability company and was converted into a Delaware corporation in 2008. The Company is engaged in the design, development, installation, sale, ownership and maintenance of residential solar energy systems (“Projects”) in the United States.

Sunrun acquires customers directly and through relationships with various solar and strategic partners (“Partners”). The Projects are constructed either by Sunrun or by Sunrun’s Partners and are owned by the Company. Sunrun’s customers enter into an agreement to utilize the solar system (“Customer Agreement”) which typically has an initial term of 20 or 25 years. Sunrun monitors, maintains and insures the Projects. The Company also sells solar energy systems and products, such as panels and racking and solar leads generated to customers.

The Company has formed various subsidiaries (“Funds”) to finance the development of Projects. These Funds, structured as limited liability companies, obtain financing from outside investors and purchase or lease Projects from Sunrun under master purchase or master lease agreements. The Company currently utilizes three legal structures in its investment Funds, which are referred to as: (i) pass-through financing obligations, (ii) partnership-flips and (iii) joint venture (“JV”) inverted leases.

Note 2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying unaudited consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”) and applicable rules and regulations of the Securities and Exchange Commission (the "SEC") regarding interim financial reporting. Certain information and note disclosures normally included in the financial statements prepared in accordance with GAAP have been condensed or omitted pursuant to such rules and regulations. As such, these unaudited condensed consolidated financial statements should be read in conjunction with the consolidated financial statements and accompanying notes included in the Company’s annual report on Form 10-K for the year ended December 31, 2018. The results of the three months ended March 31, 2019 are not necessarily indicative of the results to be expected for the fiscal year ending December 31, 2019 or other future periods.

The consolidated financial statements reflect the accounts and operations of the Company and those of its subsidiaries, including Funds, in which the Company has a controlling financial interest. The typical condition for a controlling financial interest ownership is holding a majority of the voting interests of an entity. However, a controlling financial interest may also exist in entities, such as variable interest entities (“VIEs”), through arrangements that do not involve controlling voting interests. In accordance with the provisions of Financial Accounting Standards Board (“FASB”), Accounting Standards Codification Topic 810 (“Topic 810”) *Consolidation*, the Company consolidates any VIE of which it is the primary beneficiary. The primary beneficiary, as defined in Topic 810, is the party that has (1) the power to direct the activities of a VIE that most significantly impact the VIE’s economic performance and (2) the obligation to absorb the losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE. The Company evaluates its relationships with its VIEs on an ongoing basis to determine whether it continues to be the primary beneficiary. The consolidated financial statements reflect the assets and liabilities of VIEs that are consolidated. All intercompany transactions and balances have been eliminated in consolidation.

Reclassifications

Certain prior period amounts have been reclassified to conform to current period presentation.

Use of Estimates

The preparation of the consolidated financial statements requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. The Company regularly makes estimates and assumptions, including, but not limited to, revenue recognition constraints that result in variable consideration, the discount rate used to adjust the promised amount of consideration for the effects of a significant financing component, the estimates that affect the collectability of accounts receivable, the valuation of inventories, the useful lives of solar energy systems, the useful lives of property and equipment, the valuation and useful lives of intangible assets, the effective interest rate used to amortize pass-through financing obligations, the discount rate uses for operating and financing leases, the valuation of stock-based compensation, the determination of valuation allowances associated with deferred tax assets, the fair value of debt instruments disclosed and the redemption value of redeemable noncontrolling interests. The Company bases its estimates on historical experience and on various other assumptions believed to be reasonable. Actual results may differ from such estimates.

Segment Information

The Company has one operating segment with one business activity, providing solar energy services and products to customers. The Company's chief operating decision maker ("CODM") is its Chief Executive Officer, who manages operations on a consolidated basis for purposes of allocating resources. When evaluating performance and allocating resources, the CODM reviews financial information presented on a consolidated basis.

Revenue from external customers for each group of similar products and services is as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Customer agreements	$ 78,528	$ 61,649
Incentives	21,322	5,341
Customer agreements and incentives	99,850	66,990
Solar energy systems	58,436	33,998
Products	36,218	43,375
Solar energy systems and product sales	94,654	77,373
Total revenue	$ 194,504	$ 144,363

Revenue from Customer Agreements includes payments by customers for the use of the solar system as well as utility and other rebates assigned by the customer to the Company in the Customer Agreement. Revenue from incentives includes revenue from the sale of investment tax credits ("ITCs") and renewable energy credits ("SRECs").

Cash and Restricted Cash

Restricted cash represents amounts related to replacement of solar energy system components and obligations under certain financing transactions.

The following table provides a reconciliation of cash and restricted cash reported within the consolidated balance sheets that sum to the total of the same such amounts shown in the consolidated statement of cash flows. Cash and restricted cash consists of the following (in thousands):

	March 31, 2019	December 31, 2018
Cash	$ 245,604	$ 226,625
Restricted cash, current and long-term	64,330	77,774
Total	$ 309,934	$ 304,399

Accounts Receivable

Accounts receivable consist of amounts due from customers, as well as state and utility rebates due from government agencies and utility companies. Under Customer Agreements, the customers typically assign incentive rebates to the Company.

The opening balance of Accounts receivable, net was $66.4 million as of December 31, 2017. Accounts receivable, net consists of the following (in thousands):

	March 31, 2019	December 31, 2018
Customer receivables	$ 64,598	$ 64,180
Other receivables	2,179	1,466
Rebates receivable	3,027	3,017
Allowance for doubtful accounts	(2,282)	(2,228)
Total	$ 67,522	$ 66,435

Deferred Revenue

When the Company receives consideration, or when such consideration is unconditionally due, from a customer prior to delivering goods or services to the customer under the terms of a Customer Agreement, the Company records deferred revenue. Such deferred revenue consists of amounts for which the criteria for revenue recognition have not yet been met and includes amounts that are collected or assigned from customers, including upfront deposits and prepayments, and rebates. Deferred revenue relating to financing components represents the cumulative excess of interest expense recorded on financing component elements over the related revenue recognized to date and will eventually net to zero by the end of the initial term. Amounts received related to the sales of SRECs which have not yet been delivered to the counterparty are recorded as deferred revenue.

The opening balance of deferred revenue was $564.9 million as of December 31, 2017. Deferred revenue consists of the following (in thousands):

	March 31, 2019	December 31, 2018
Under Customer Agreements:		
Payments received	$ 543,945	$ 538,926
Financing component balance	39,577	37,801
	583,522	576,727
Under SREC contracts:		
Payments received	108,002	12,977
Financing component balance	1,937	1,921
	109,939	14,898
Total	$ 693,461	$ 591,625

In the three months ended March 31, 2019 and 2018, the Company recognized revenue of $14.0 million and $12.8 million, respectively, from amounts included in deferred revenue at the beginning of the respective periods. Revenue allocated to remaining performance obligations represents contracted revenue that has not yet been recognized and includes deferred revenue as well as amounts that will be invoiced and recognized as revenue in future periods. Contracted but not yet recognized revenue was approximately $5.6 billion as of March 31, 2019, of which the Company expects to recognize approximately 6% over the next 12 months. The annual recognition is not expected to vary significantly over the next 10 years as the vast majority of existing Customer Agreements have at least 10 years remaining, given that the average age of the Company's fleet of residential solar energy systems under Customer Agreements is less than four years due to the Company being formed in 2007 and having experienced significant growth in the last few years. The annual recognition on these existing contracts will gradually decline over the midpoint of the Customer Agreements over the following 10 years as the typical 20 or 25-year initial term expires on individual Customer Agreements. During the three months ended March 31, 2019, deferred revenue increased by $95.5 million arising from a sale of the right to SRECs to be generated over the next 10 - 15 years by a group of solar energy systems. In connection with the sale, the Company repaid debt previously drawn against the rights to these SRECs.

Fair Value of Financial Instruments

The Company defines fair value as the exchange price that would be received for an asset or an exit price that would be paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Company uses valuation approaches to measure fair value that maximize the use of observable inputs and minimize the use of unobservable inputs. The FASB establishes a three-tier fair value hierarchy for disclosure of fair value measurements as follows:

- Level 1—Inputs are unadjusted, quoted prices in active markets for identical assets or liabilities at the measurement date;
- Level 2—Inputs are observable, unadjusted quoted prices in active markets for similar assets or liabilities, unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the related assets or liabilities; and
- Level 3—Inputs that are unobservable, significant to the measurement of the fair value of the assets or liabilities and are supported by little or no market data.

Revenue Recognition

The Company recognizes revenue when control of goods or services is transferred to its customers, in an amount that reflects the consideration it expected to be entitled to in exchange for those goods or services.

Customer agreements and incentives

Customer agreements and incentives revenue is primarily comprised of revenue from Customer Agreements in which the Company provides continuous access to a functioning solar system and revenue from the sales of ITCs and SRECs generated by the Company's solar energy systems to third parties.

The Company begins to recognize revenue on Customer Agreements when permission to operate ("PTO") is given by the local utility company or on the date daily operation commences if utility approval is not required. Revenue recognition does not necessarily follow the receipt of cash. The Company recognizes revenue evenly over the time that it satisfies its performance obligations over the initial term of the Customer Agreements. Customer Agreements typically have an initial term of 20 or 25 years. After the initial contract term, the Company's Customer Agreements typically automatically renew on an annual basis and the rate is initially set at up to a 10% discount to then-prevailing power prices.

SREC revenue arises from the sale of environmental credits generated by solar energy systems and is generally recognized upon delivery of the SRECs to the counterparty. For pass-through financing obligation Funds, the value attributable to the monetization of ITCs is recognized in the period a solar system is granted PTO - see Note 10, *Pass-through Financing Obligations*.

In determining the transaction price, the Company adjusts the promised amount of consideration for the effects of the time value of money when the timing of payments provides it with a significant benefit of financing the transfer of goods or services to the customer. In those circumstances, the contract contains a significant financing component. When adjusting the promised amount of consideration for a significant financing component, the Company uses the discount rate that would be reflected in a separate financing transaction between the entity and its customer at contract inception and recognizes the revenue amount on a straight-line basis over the term of the Customer Agreement, and interest expense using the effective interest rate method.

Consideration from customers is considered variable due to the performance guarantee under Customer Agreements and liquidated damage provisions under SREC contracts in the event minimum deliveries are not achieved. Performance guarantees provide a credit to the customer if the system's cumulative production, as measured on various PTO anniversary dates, is below the Company's guarantee of a specified minimum. Revenue is recognized to the extent it is probable that a significant reversal of such revenue will not occur.

The Company capitalizes incremental costs incurred to obtain a contract in Other Assets in the consolidated balance sheets. These amounts are amortized on a straight-line basis over the term of the Customer Agreements, and are included in Sales and marketing in the consolidated statements of operations.

Solar energy systems and product sales

For solar energy systems sold to customers, the Company recognizes revenue when the solar energy system passes inspection by the authority having jurisdiction. The Company's installation projects are typically completed in less than 12 months.

Product sales consist of solar panels, racking systems, inverters, other solar energy products sold to resellers and customer leads. Product sales revenue is recognized upon shipment, which is at the time control is transferred. Customer lead revenue is recognized at the time the lead is delivered.

Taxes assessed by government authorities that are directly imposed on revenue producing transactions are excluded from solar energy systems and product sales.

Cost of Revenue

Customer agreements and incentives

Cost of revenue for customer agreements and incentives is primarily comprised of (1) the depreciation of the cost of the solar energy systems, as reduced by amortization of deferred grants, (2) solar energy system operations, monitoring and maintenance costs including associated personnel costs, and (3) allocated corporate overhead costs.

Solar energy systems and product sales

Cost of revenue for solar energy systems and non-lead generation product sales consist of direct and indirect material and labor costs for solar energy systems installations and product sales. Also included are engineering and design costs, estimated warranty costs, freight costs, allocated corporate overhead costs, vehicle depreciation costs and personnel costs associated with supply chain, logistics, operations management, safety and quality control. Cost of revenue for lead generations consists of costs related to direct-response advertising activities associated with generating customer leads.

Recently Issued and Adopted Accounting Standards

Accounting standards adopted January 1, 2019:

In February 2018, the FASB issued Accounting Standards Update ("ASU") No. 2018-02, *Income Statement -- Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income*, which allows companies to reclassify stranded tax effects resulting from the Tax Cuts and Jobs Act from accumulated other comprehensive income to retained earnings. The Company adopted ASU No. 2018-02 effective January 1, 2019, resulting in a current period adjustment of $0.7 million for the reclassification, as reflected in its consolidated statement of redeemable noncontrolling interests and stockholders' equity. The Company uses the aggregate portfolio approach when reclassing stranded tax effects from accumulated other comprehensive income.

In June 2018, the FASB issued ASU No. 2018-07, *Compensation -- Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting*, which aligns the accounting for share-based payment awards issued to employees and nonemployees; however, this amendment does not apply to instruments issued in a financing transaction nor to equity instruments granted to a customer under a contract in the scope of Topic 606. Under this new amendment, equity-classified nonemployee share-based payments are measured at the grant-date fair value and recognized based on the probable outcome of the performance conditions. The Company adopted ASU No. 2018-07 effective January 1, 2019, and there was no material impact to its consolidated financial statements.

In July 2018, the FASB issued ASU No. 2018-09, *Codification Improvements*. This amendment makes changes to a variety of topics to clarify, correct errors in, or make minor improvements to the Accounting Standards Codification. The Company adopted ASU No. 2018-09 effective January 1, 2019, and there was no material impact to its consolidated financial statements.

In August 2018, the SEC adopted a Disclosure Update and Simplification release, which outlines Regulation S-X amendments to eliminate outdated or duplicative disclosure requirements. The final rule also amends the interim financial statement requirements to require a reconciliation of changes in stockholders' equity in the notes or as a separate statement. These amendments are effective for all filings made 30 days after the amendments are published in the Federal Register, which was on October 4, 2018. The SEC announced that it would not object if the first presentation of the changes in stockholders' equity for a calendar year end filer were made in the Company's March 31, 2019 Form 10-Q. Effective with this interim report on Form 10-Q, the Company is now presenting consolidated statements of redeemable noncontrolling interests and stockholders' equity.

Accounting standards to be adopted:

In June 2016, the FASB issued ASU No. 2016-13, *Measurement of Credit Losses on Financial Instruments*, which replaces the current incurred loss impairment methodology with a current expected credit losses model. The amendment applies to entities which hold financial assets and net investment in leases that are not accounted for at fair value through net income as well as loans, debt securities, trade receivables, net investments in leases, off-balance sheet credit exposures, reinsurance receivables and any other financial assets not excluded from the scope that have the contractual right to receive cash. This ASU is effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. Early adoption is permitted. Adoption of this ASU is applied using a modified retrospective approach, with certain aspects requiring a prospective approach. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework--Changes to the Disclosure Requirements for Fair Value Measurement*, which modifies the disclosure requirements on fair value measurements as part of its disclosure framework project. Under this amendment, entities will no longer be required to disclose the amount of and reasons for transfers between Level 1 and Level 2 of the fair value hierarchy. However, for Level 3 fair value measurements, disclosures around the range and weighted average used to develop significant unobservable inputs will be required. This ASU is effective for fiscal periods beginning after December 15, 2019. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements and disclosures.

In August 2018, the FASB issued ASU No. 2018-15, *Intangibles--Goodwill and Other--Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract*, which requires a customer in a cloud computing arrangement that is a service contract to follow the internal-use software guidance in Topic 350, *Intangibles--Goodwill and Other*, to determine which implementation costs to capitalize as assets or expense as incurred. This ASU is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019, and can be applied either prospectively to implementation costs incurred after the date of adoption or retrospectively to all arrangements. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements.

In October 2018, the FASB issued ASU No. 2018-17, *Consolidation (Topic 810)*, Targeted Improvements to Related Party Guidance for Variable Interest Entities, which aligns the evaluation of decision-making fees under the variable interest entity guidance. Under this new guidance, in order to determine whether decision-making fees represent a variable interest, an entity considers indirect interests held through related parties under common control on a proportionate basis. This ASU is effective for annual reporting periods, and interim periods within those years, beginning after December 15, 2019, and must be applied retrospectively with a cumulative-effect adjustment to retained earnings at the beginning of the earliest period presented. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements.

Note 3. Fair Value Measurement

At March 31, 2019 and December 31, 2018, the carrying value of receivables, accounts payable, accrued expenses and distributions payable to noncontrolling interests approximates fair value due to their short-term nature and falls under the Level 2 hierarchy. The carrying values and fair values of debt instruments are as follows (in thousands):

	March 31, 2019		December 31, 2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Bank line of credit	$ 239,035	$ 239,035	$ 247,000	$ 247,000
Senior debt	913,787	913,710	828,517	828,309
Subordinated debt	278,910	284,887	273,337	272,937
Securitization debt	392,490	406,818	400,068	394,756
Total	$ 1,824,222	$ 1,844,450	$ 1,748,922	$ 1,743,002

At March 31, 2019 and December 31, 2018, the fair value of the Company's lines of credit, and certain senior, subordinated and SREC loans approximate their carrying values because their interest rates are variable rates that approximate rates currently available to the Company. At March 31, 2019 and December 31, 2018, the fair value of the Company's other debt instruments are based on rates currently offered for debt with similar maturities and terms. The Company's fair value of the debt instruments fell under the Level 2 hierarchy. These valuation approaches involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market.

The Company determines the fair value of its interest rate swaps using a discounted cash flow model that incorporates an assessment of the risk of non-performance by the interest rate swap counterparty and an evaluation of the Company's credit risk in valuing derivative instruments. The valuation model uses various inputs including contractual terms, interest rate curves, credit spreads and measures of volatility.

At March 31, 2019 and December 31, 2018, financial instruments measured at fair value on a recurring basis, based upon the fair value hierarchy, are as follows (in thousands):

	March 31, 2019			
	Level 1	Level 2	Level 3	Total
Derivative assets:				
Interest rate swaps	$ —	$ 590	$ —	$ 590
Total	$ —	$ 590	$ —	$ 590
Derivative liabilities:				
Interest rate swaps	$ —	$ 28,314	$ —	$ 28,314
Total	$ —	$ 28,314	$ —	$ 28,314

	December 31, 2018			
	Level 1	Level 2	Level 3	Total
Derivative assets:				
Interest rate swaps	$ —	$ 6,958	$ —	$ 6,958
Total	$ —	$ 6,958	$ —	$ 6,958
Derivative liabilities:				
Interest rate swaps	$ —	$ 11,910	$ —	$ 11,910
Total	$ —	$ 11,910	$ —	$ 11,910

Note 4. Inventories

Inventories consist of the following (in thousands):

	March 31, 2019	December 31, 2018
Raw materials	$ 65,598	$ 64,256
Work-in-process	10,586	15,211
Total	$ 76,184	$ 79,467

Note 5. Solar Energy Systems, net

Solar energy systems, net consists of the following (in thousands):

	March 31, 2019	December 31, 2018
Solar energy system equipment costs	$ 4,012,116	$ 3,823,853
Inverters	416,088	396,054
Total solar energy systems	4,428,204	4,219,907
Accumulated depreciation and amortization	(575,094)	(535,891)
Construction-in-progress	123,394	136,001
Total solar energy systems, net	$ 3,976,504	$ 3,820,017

All solar energy systems, including construction-in-progress, have been leased to or are subject to signed Customer Agreements with customers. The Company recorded depreciation expense related to solar energy systems of $39.4 million and $32.4 million for the three months ended March 31, 2019 and 2018, respectively. The depreciation expense was reduced by the amortization of deferred grants of $2.0 million and $1.9 million for the three months ended March 31, 2019 and 2018, respectively.

Note 6. Other Assets

Other assets consist of the following (in thousands):

	March 31, 2019	December 31, 2018
Costs to obtain contracts- customer agreements	$ 232,567	$ 219,307
Costs to obtain contracts- incentives	2,481	—
Accumulated amortization of costs to obtain contracts	(27,641)	(24,992)
Unbilled receivables	90,578	81,703
Operating lease right-of-use assets	38,051	20,257
Other assets	31,915	39,410
Total	$ 367,951	$ 335,685

The Company recorded amortization of costs to obtain contracts of $2.7 million and $1.9 million for the three months ended March 31, 2019 and 2018, respectively, in Sales and marketing in the consolidated statements of operations.

The majority of unbilled receivables arise from fixed price escalators included in the Company's long-term Customer Agreements. The escalator is included in calculating the total estimated transaction value for an individual Customer Agreement. The total estimated transaction value is then recognized evenly over the term of the Customer Agreement. The amount of unbilled receivables increases while current period billings for an individual Customer Agreement are less than the current period revenue recognized for that Customer Agreement. Conversely, the amount of unbilled receivables decreases when the actual current period billings become higher than the current period revenue recognized. At the end of the initial term of a Customer Agreement, the cumulative amounts recognized as revenue and billed to date are the same, therefore the unbilled receivable balance for an individual Customer Agreement will be zero.

Note 7. Accrued Expenses and Other Liabilities

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

	March 31, 2019	December 31, 2018
Accrued employee compensation	$ 35,393	$ 39,738
Operating lease obligations	9,462	7,857
Accrued interest	12,942	8,436
Accrued professional fees	12,185	9,199
Other accrued expenses	33,782	33,406
Total	$ 103,764	$ 98,636

Note 8. Indebtedness

As of March 31, 2019, debt consisted of the following (in thousands, except percentages):

	Carrying Values, net of debt discount			Unused Borrowing Capacity	Interest Rate (1)	Maturity Date
	Current	Long Term	Total			
Recourse debt:						
Bank line of credit	$ —	$ 239,035	$ 239,035	$ —	5.59% - 5.90%	April 2020
Total recourse debt	—	239,035	239,035	—		
Non-recourse debt:						
Senior	12,679	901,108	913,787	—	4.50% - 5.49%	September 2020 - October 2024
Subordinated	5,715	273,195	278,910	—	7.03% - 10.00%	September 2020 - January 2030
Securitization Class A	8,072	374,875	382,947	—	4.40% - 5.31%	July 2024 - April 2049
Securitization Class B	471	9,072	9,543	—	5.38 %	July 2024
Total non-recourse debt	26,937	1,558,250	1,585,187	—		
Total debt	$ 26,937	$ 1,797,285	$ 1,824,222	$ —		

(1) Reflects contractual, unhedged rates. See Note 9, *Derivatives* for hedge rates.

As of December 31, 2018, debt consisted of the following (in thousands, except percentages):

	Carrying Values, net of debt discount			Unused Borrowing Capacity	Interest Rate (1)	Maturity Date
	Current	Long Term	Total			
Recourse debt:						
Bank line of credit	$ —	$ 247,000	$ 247,000	$ 406	5.45% - 5.77%	April 2020
Total recourse debt	—	247,000	247,000	406		
Non-recourse debt:						
Senior	19,070	809,447	828,517	—	4.50% - 5.54%	September 2020 - October 2024
Subordinated	5,824	267,513	273,337	—	7.03% - 10.00%	September 2020 - January 2030
Securitization Class A	10,125	380,299	390,424	—	4.40% - 5.31%	July 2024 - April 2049
Securitization Class B	465	9,179	9,644	—	5.38 %	July 2024
Total non-recourse debt	35,484	1,466,438	1,501,922	—		
Total debt	$ 35,484	$ 1,713,438	$ 1,748,922	$ 406		

(1) Reflects contractual, unhedged rates. See Note 9, *Derivatives* for hedge rates.

Bank Line of Credit

The Company has outstanding borrowings under a syndicated working capital facility with banks for a total commitment of up to $250.0 million. The working capital facility is secured by substantially all of the unencumbered assets of the Company, as well as ownership interests in certain subsidiaries of the Company. Loans under the facility bear interest at LIBOR +3.25% per annum or the Base Rate + 2.25% per annum. The Base Rate is the highest of the Federal Funds Rate +0.50%, the Prime Rate, or LIBOR + 1.00%.

Under the terms of the working capital facility, the Company is required to meet various restrictive covenants, such as the completion and presentation of audited consolidated financial statements, maintaining a minimum unencumbered liquidity of at least $25 million at the end of each calendar month, maintaining quarter end liquidity of at least $30 million, and maintaining a minimum interest coverage ratio of 3.00 or greater, measured quarterly as of the last day of each quarter. The Company was in compliance with all debt covenants as of March 31, 2019. As of March 31, 2019, the balance under this facility was $239.0 million with a maturity date in April 2020. Although there is no assurance that the Company will be able to do so, the Company believes that it is probable that it will be able to extend or otherwise refinance the facility prior to maturity.

Senior and Subordinated

Each of the Company's senior and subordinated debt facilities contains customary covenants including the requirement to maintain certain financial measurements and provide lender reporting. Each of the senior and subordinated debt facilities also contain certain provisions in the event of default that entitle lenders to take certain actions including acceleration of amounts due under the facilities and acquisition of membership interests and assets that are pledged to the lenders under the terms of the senior and subordinated debt facilities. The facilities are non-recourse to the Company and are secured by net cash flows from Customer Agreements less certain operating, maintenance and other expenses that are available to the borrower after distributions to tax equity investors, where applicable. The Company was in compliance with all debt covenants as of March 31, 2019.

As of March 31, 2019, certain subsidiaries of the Company have an outstanding balance of $281.8 million on secured credit facilities that were syndicated with various lenders due in October 2024. The credit facilities totaled $303.0 million and consisted of $293.0 million in term loans, and a $10.0 million revolving debt service reserve letter of credit facility. Term Loan A ("TLA") is a senior delayed draw term loan that bears interest at LIBOR +2.75% per annum for LIBOR loans or the Base Rate +1.75% per annum on Base Rate loans. Term Loan B ("TLB") is subordinated debt and consists of a Class A portion which accrues interest at a fixed interest rate of 7.03% per annum and a Class B portion which accrues interest at LIBOR + 5.00% per annum or the Base Rate + 4.00% per annum. The Base Rate is the highest of the Federal Funds Rate +0.50%, the Prime Rate, or LIBOR + 1.00%. Under TLA, prepayments are permitted with no penalties. Under TLB, prepayments are permitted with associated penalties ranging from 0% - 5% depending on the timing of prepayments.

As of March 31, 2019, certain subsidiaries of the Company have an outstanding balance of $183.8 million on senior secured credit facilities that were syndicated with various lenders due in April 2024. These facilities are subject to the National Grid project equity transaction. The credit facilities totaled $202.0 million and consisted of a $195.0 million senior delayed draw term loan facility and a $7.0 million revolving debt service reserve letter of credit facility. Loans under the facility bear interest at LIBOR +2.25% per annum, for the initial four-year period for LIBOR loans or the Base Rate + 1.25% per annum for Base Rate Loans. The Base Rate is the highest of the Federal Funds Rate +0.50%, the Prime Rate, or LIBOR + 1.00%. The facilities are non-recourse to the Company and are secured by net cash flows from Customer Agreements and SRECs, less certain operating, maintenance and other expenses that are available to the borrower after distributions to tax equity investors. Prepayments are permitted under the delayed draw term loan facility.

As of March 31, 2019, certain subsidiaries of the Company have an outstanding balance of $362.6 million on secured credit facilities agreements, as amended, with a syndicate of banks due in March 2023. The facilities totaled $595.0 million and consisted of a revolving aggregation facility (“Aggregation Facility”), a term loan ("Term Loan") and a revolving debt service reserve letter of credit facility. Senior loans under the Aggregation Facility bear interest at LIBOR +2.50% per annum for the initial three-year revolving availability period, stepping up to LIBOR + 2.75% per annum in the following two-year period. The subordinated Term Loan bears interest at LIBOR +5.00% per annum for the first three-year period, stepping up to LIBOR + 6.50% per annum thereafter. Term Loan prepayment penalties range from 0% - 1% depending on the timing of prepayments.

As of March 31, 2019, a subsidiary of the Company has an outstanding balance of $210.2 million on a revolving loan facility due in September 2020.The facility is secured by the assets and related net cash flow of this subsidiary and is non-recourse to the Company's other assets. Loans under the facility bear interest at LIBOR +2.75% per annum for the senior secured loan, and LIBOR + 5.50% per annum for the subordinated loan.

As of March 31, 2019, a subsidiary of the Company has an outstanding balance of $20.0 million on a term loan due in April 2022. The loan is secured by the assets and related net cash flow of this subsidiary and is non-recourse to the Company’s other assets. Loans under this facility bear interest at 4.50% per annum.

As of March 31, 2019, a subsidiary of the Company has an outstanding balance of $16.1 million on a secured, non-recourse loan agreement due in September 2022. The loan will be repaid through cash flows from a pass-through financing obligation arrangement previously entered into by the Company. The loan agreement contains customary covenants including the requirement to maintain certain financial measurements and provide lender reporting. The loan also contains certain provisions in the event of default that entitles the lender to take certain actions including acceleration of amounts due under the loan. Loans under this facility bear interest at LIBOR +2.25% per annum.

As of March 31, 2019, a subsidiary of the Company has an outstanding balance of $118.2 million on a term loan due in January 2030. The loan is secured by the assets and related net cash flow of this subsidiary and is non-recourse to the Company’s other assets. Loans under this facility bear interest at 10.00% per annum.

Securitization Loans

Each of the Company's securitized loans contains customary covenants including the requirement to provide reporting to the indenture trustee and ratings agencies. Each of the securitized loans also contain certain provisions in the event of default which entitle the indenture trustee to take certain actions including acceleration of amounts due under the facilities and acquisition of membership interests and assets that are pledged to the lenders under the terms of the securitized loans. The facilities are non-recourse to the Company and are secured by net cash flows from Customer Agreements less certain operating, maintenance and other expenses that are available to the borrower after distributions to tax equity investors, where applicable. The Company was in compliance with all debt covenants as of March 31, 2019.

As of March 31, 2019, a subsidiary of the Company has an outstanding balance of $89.1 million on solar asset-backed notes ("Notes") secured by associated customer contracts (“Solar Assets”) held by a special purpose entity (“Issuer”). As of March 31, 2019 and December 31, 2018, these Solar Assets had a carrying value of $162.7 million and $164.7 million, respectively, and are included under solar energy systems, net, in the consolidated balance sheets. The Notes were issued at a discount of 0.08%

As of March 31, 2019, a subsidiary of the Company has an outstanding balance of $303.4 million on solar asset-backed notes secured by net cash flows from Customer Agreements less certain operating, maintenance and other expenses that are available to the issuer after distributions to tax equity investors. The Notes were issued at a discount of 1.47%. The assets and cash flows generated by the Solar Assets are not available to the other creditors of the Company, and the creditors of the Issuer, including the Note holders, have no recourse to the Company's other assets.

Note 9. Derivatives

Interest Rate Swaps

The Company uses interest rate swaps to hedge variable interest payments due on certain of its term loans and aggregation facility. These swaps allow the Company to incur fixed interest rates on these loans and receive payments based on variable interest rates with the swap counterparty based on the one or three month LIBOR on the notional amounts over the life of the swaps.

The interest rate swaps have been designated as cash flow hedges. The credit risk adjustment associated with these swaps is the risk of non-performance by the counterparties to the contracts. In the three months ended March 31, 2019, the hedge relationships on the Company’s interest rate swaps have been assessed as highly effective as the critical terms of the interest rate swaps match the critical terms of the underlying forecasted hedged transactions. Accordingly, changes in the fair value of these derivatives are recorded as a component of accumulated other comprehensive income, net of income taxes. Changes in the fair value of these derivatives are subsequently reclassified into earnings, and are included in interest expense, net in the Company’s statements of operations, in the period that the hedged forecasted transactions affects earnings.

The following table summarizes the post-tax amount of unrealized gain or loss recognized in Accumulated other comprehensive income (loss) ("OCI") in the consolidated statements of redeemable noncontrolling interests and stockholders' equity (in thousands):

	Three Months Ended March 31,	
	2019	2018
Derivatives designated as cash flow hedges:		
Loss in OCI at the beginning of the period	$ (3,124)	$ (4,113)
Unrealized (loss) gain recognized in OCI	(17,013)	16,171
Amount reclassified from OCI to earnings	(989)	(1,233)
Net (loss) gain on derivatives (net of tax effect of $6,093 and $5,134)	(18,002)	14,938
Cumulative effect of adoption of new ASU (No. 2018-02)	(740)	—
(Loss) gain in OCI at the end of the period	(21,866)	10,825

During the next 12 months, the Company expects to reclassify $0.1 million of net gains on derivative instruments from accumulated other comprehensive income to earnings. There were no undesignated derivative instruments recorded by the Company as of March 31, 2019.

The Company's master netting and other similar arrangements allow net settlements under certain conditions. When those conditions are met, the Company presents derivatives at net fair value. As of March 31, 2019 the information related to these offsetting arrangements were as follows (in thousands):

Instrument Description	Gross Amounts of Recognized Assets / Liabilities	Gross Amounts Offset in the Consolidated Balance Sheet	Net Amounts of Assets / Liabilities Included in the Consolidated Balance Sheet
Assets:			
Derivatives	$ 590	$ (276)	$ 314
Liabilities:			
Derivatives	(28,314)	276	(28,038)
Total	$ (27,724)	$ —	$ (27,724)

As of December 31, 2018 the information related to these offsetting arrangements were as follows (in thousands):

Instrument Description	Gross Amounts of Recognized Assets / Liabilities	Gross Amounts Offset in the Consolidated Balance Sheet	Net Amounts of Assets / Liabilities Included in the Consolidated Balance Sheet
Assets:			
Derivatives	$ 6,958	$ (1,605)	$ 5,353
Liabilities:			
Derivatives	(11,910)	1,605	(10,305)
Total	$ (4,952)	$ —	$ (4,952)

At March 31, 2019, the Company had the following derivative instruments (dollars in thousands):

Type	Quantity	Effective Dates	Maturity Dates	Hedge Interest Rates	Notional Amount	Adjusted Net Fair Market Value
Interest rate swap	1	5/21/2018	9/20/2020	2.69%	$ 80,500	$ (437)
Interest rate swap	1	4/29/2016	8/31/2022	1.27%- 1.29%	13,179	314
Interest rate swaps	8	7/31/2017 - 1/31/2018	4/30/2024 - 10/20/2024	2.16%- 2.39%	283,160	(384)
Interest rate swaps	3	4/30/2021	10/30/2026 - 10/31/2026	2.89% - 3.08%	102,720	(3,631)
Interest rate swap	1	10/22/2018	9/20/2027	2.97%	30,023	(1,011)
Interest rate swaps	2	4/22/2019 - 9/20/2020	3/20/2030 - 6/20/2030	2.22% - 2.57%	160,401	(1,177)
Interest rate swap	1	9/20/2020	1/20/2031	2.61%	9,899	(332)
Interest rate swaps	3	1/31/2020	4/30/2034	2.78%	200,000	(6,545)
Interest rate swaps	5	7/31/2017 - 4/30/2024	7/31/2035	2.56% - 2.95%	151,610	(2,197)
Interest rate swaps	5	1/31/2018 - 10/18/2024	10/31/2036	2.62% - 2.95%	183,398	(2,710)
Interest rate swaps	3	1/31/2019 - 4/30/2021	4/30/2037	3.28% - 3.30%	100,000	(7,099)
Interest rate swaps	3	10/30/2026 - 10/31/2026	1/31/2038	3.01% - 3.16%	101,135	(2,515)
Total					$ 1,416,025	$ (27,724)

Note 10. Pass-through Financing Obligations

The Company's pass-through financing obligations ("financing obligations") arise when the Company leases solar energy systems to Fund investors who are considered commercial customers under a master lease agreement, and these investors in turn are assigned the Customer Agreements with customers. The Company receives all of the value attributable to the accelerated tax depreciation and some or all of the value attributable to the other incentives. Given the assignment of operating cash flows, these arrangements are accounted for as financing obligations. The Company also sells the rights and related value attributable to the ITC to these investors.

Under these financing obligation arrangements, wholly owned subsidiaries of the Company finance the cost of solar energy systems with investors for an initial term of typically 20 or 22 years. The solar energy systems are subject to Customer Agreements with an initial term of typically 20 or 25 years that automatically renew on an annual basis. These solar energy systems are reported under the line item solar energy systems, net in the consolidated balance sheets. As of March 31, 2019 and December 31, 2018, the cost of the solar energy systems placed in service under the financing obligation arrangements was $656.5 million and $664.1 million, respectively. The accumulated depreciation related to these assets as of March 31, 2019 and December 31, 2018 was $79.8 million and $82.1 million, respectively.

The investors make a series of large up-front payments and, in certain cases, subsequent smaller quarterly payments (lease payments) to the subsidiaries of the Company. The Company accounts for the payments received from the investors under the financing obligation arrangements as borrowings by recording the proceeds received as financing obligations on its consolidated balance sheets, and cash provided by financing activities in its consolidated statement of cash flows. These financing obligations are reduced over a period of approximately 22 years by customer payments under the Customer Agreements, U.S. Treasury grants (where applicable), incentive rebates (where applicable) and proceeds from the contracted resale of SRECs as they are received by the investor. In addition, funds paid for the ITC value upfront are initially recorded as a refund liability and recognized as revenue as the associated solar system reaches PTO. The ITC value is reflected in the cash provided by operations on the consolidated statement of cash flows. The Company accounts for the Customer Agreements and any related U.S. Treasury grants or incentive rebates as well as the resale of SRECs consistent with the Company's revenue recognition accounting policies as described in Note 2, *Summary of Significant Accounting Policies.*

Interest is calculated on the financing obligations using the effective interest rate method. The effective interest rate, which is adjusted on a prospective basis, is the interest rate that equates the present value of the estimated cash amounts to be received by the investor over the lease term with the present value of the cash amounts paid by the investor to the Company, adjusted for amounts received by the investor. The financing obligations are nonrecourse once the associated assets have been placed in service and all the contractual arrangements have been assigned to the investor.

Under the majority of the financing obligations, the investor has a right to extend its right to receive cash flows from the customers beyond the initial term in certain circumstances. Depending on the arrangement, the Company has the option to settle the outstanding financing obligation on the ninth or eleventh anniversary of the Fund inception at a price equal to the higher of (a) the fair value of future remaining cash flows or (b) the amount that would result in the investor earning their targeted return. In several of these financing obligations, the investor has an option to require repayment of the entire outstanding balance on the tenth anniversary of the Fund inception at a price equal to the fair value of the future remaining cash flows.

Under all financing obligations, the Company is responsible for services such as warranty support, accounting, lease servicing and performance reporting to customers. As part of the warranty and performance guarantee with the customers, the Company guarantees certain specified minimum annual solar energy production output for the solar energy systems leased to the customers, which the Company accounts for as disclosed in Note 2, *Summary of Significant Accounting Policies.*

During the three months ended March 31, 2019, the Company made an early repayment of one of its financing obligations for $11.7 million, which resulted in a debt extinguishment expense of $4.4 million.

Note 11. VIE Arrangements

The Company consolidated various VIEs at March 31, 2019 and December 31, 2018. The carrying amounts and classification of the VIEs' assets and liabilities included in the consolidated balance sheets are as follows (in thousands):

	March 31, 2019	December 31, 2018
Assets		
Current assets		
Cash	$ 135,548	$ 105,494
Restricted cash	969	2,071
Accounts receivable, net	16,988	18,539
Prepaid expenses and other current assets	386	387
Total current assets	153,891	126,491
Solar energy systems, net	2,761,312	2,712,377
Other assets	66,707	66,427
Total assets	$ 2,981,910	$ 2,905,295
Liabilities		
Current liabilities		
Accounts payable	$ 10,979	$ 12,136
Distributions payable to noncontrolling interests and redeemable noncontrolling interests	15,545	15,797
Accrued expenses and other liabilities	7,315	7,122
Deferred revenue, current portion	33,504	29,102
Deferred grants, current portion	982	982
Non-recourse debt, current portion	4,336	4,217
Total current liabilities	72,661	69,356
Deferred revenue, net of current portion	405,261	367,818
Deferred grants, net of current portion	27,982	28,247
Non-recourse debt, net of current portion	184,958	186,494
Other liabilities	10,733	8,843
Total liabilities	$ 701,595	$ 660,758

The Company holds a variable interest in an entity that provides the noncontrolling interest with a right to terminate the leasehold interests in all of the leased projects on the tenth anniversary of the effective date of the master lease. In this circumstance, the Company would be required to pay the noncontrolling interest an amount equal to the fair market value, as defined in the governing agreement of all leased projects as of that date.

The Company holds certain variable interests in nonconsolidated VIEs established as a result of six pass-through Fund arrangements as further explained in Note 10, *Pass-through Financing Obligations.* The Company does not have material exposure to losses as a result of its involvement with the VIEs in excess of the amount of the pass-through financing obligation recorded in the Company's consolidated financial statements. The Company is not considered the primary beneficiary of these VIEs.

During the three months ended March 31, 2019, the Company acquired an investor's interest in a consolidated VIE for total cash consideration of $4.6 million. This transaction increased the Company's additional paid-in-capital, net of the related tax impact, by $1.1 million.

Note 12. Redeemable Noncontrolling Interests and Equity

During certain specified periods of time (the "Early Exit Periods"), noncontrolling interests in certain funding arrangements have the right to put all of their membership interests to the Company (the "Put Provisions"). During a specific period of time (the "Call Periods"), the Company has the right to call all membership units of the related redeemable noncontrolling interests.

The carrying value of redeemable noncontrolling interests was greater than the redemption value except for seven and six Funds at March 31, 2019 and December 31, 2018, respectively, where the carrying value has been adjusted to the redemption value.

Note 13. Stock-Based Compensation

Stock Options

The following table summarizes the activity for all stock options under all of the Company's equity incentive plans for the three months ended March 31, 2019 (shares and aggregate intrinsic value in thousands):

	Number of Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value
Outstanding at December 31, 2018	13,590	$ 6.07	6.63	$ 66,462
Granted	1,064	14.57		
Exercised	(1,139)	3.86		
Cancelled	(17)	10.30		
Outstanding at March 31, 2019	13,498	$ 6.92	6.71	$ 97,127
Options vested and exercisable at March 31, 2019	8,154	$ 6.21	5.67	$ 64,261

Restricted Stock Units

The following table summarizes the activity for all restricted stock units ("RSUs") under all of the Company's equity incentive plans for the three months ended March 31, 2019 (shares in thousands):

	Number of Awards	Weighted Average Grant Date Fair Value
Unvested balance at December 31, 2018	4,182	$ 7.05
Granted	1,524	14.42
Issued	(451)	6.75
Cancelled / forfeited	(295)	7.20
Unvested balance at March 31, 2019	4,960	$ 9.33

Employee Stock Purchase Plan

Under the Company's 2015 Employee Stock Purchase Plan ("ESPP"), as amended in May 2017, eligible employees are offered shares bi-annually through a 24-month offering period that encompasses four six-month purchase periods. Each purchase period begins on the first trading day on or after May 15 and November 15 of each year. Employees may purchase a limited number of shares of the Company's common stock via regular payroll deductions at a discount of 15% of the lower of the fair market value of the Company's common stock on the first trading date of each offering period or on the exercise date. Employees may deduct up to 15% of payroll, with a cap of $25,000 of fair market value of shares in any calendar year and 10,000 shares per employee per purchase period.

Stock-Based Compensation Expense

The Company recognized stock-based compensation expense, including ESPP expenses, in the consolidated statements of operations as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Cost of customer agreements and incentives	$ 632	$ 611
Cost of solar energy systems and product sales	167	170
Sales and marketing	1,128	4,150
Research and development	336	295
General and administration	3,520	5,468
Total	$ 5,783	$ 10,694

In August 2017, the Company entered into an agreement with an affiliate ("Contractor") of Comcast Corporation ("Comcast") whereby Contractor will receive lead or sales fees for new customers it brings to the Company over a 40-month term. Comcast may also earn a warrant to purchase up to 11,793,355 shares of the Company's outstanding common stock, at an exercise price of $0.01 per warrant share. The warrant initially vests 50.05% when both (i) Contractor has earned a lead or sales fee with respect to 30,000 of installed solar energy systems, and (ii) Contractor or its affiliates have spent at least $10.0 million in marketing and sales in connection with the agreement. Thereafter, the warrant will vest in five additional increments for each additional 6,000 installed solar energy systems. On November 7, 2018 the warrant vesting schedule was modified so that it will initially vest either (i) as to 10.0% if Contractor has earned a lead or sales fee with respect to 6,000 of installed solar energy systems by September 30, 2019 or (ii) as to 13.3% if Contractor has earned a lead or sales fee with respect to 8,000 of installed solar energy systems by December 31, 2019, provided that, in either case, Contractor or its affiliates have spent at least $ 25.0 million in marketing and sales in connection with the agreement. Thereafter, the warrant will vest in additional 8.3% increments for each additional 5,000 installed solar energy systems. If the initial vesting conditions have not been met by December 31, 2019, the Warrant will expire. As of May 8, 2019, none of the shares under this amended warrant have vested and, therefore, no expense has been recognized to date.

Note 14. Income Taxes

The income tax expense rate for the three months ended March 31, 2019 and 2018 was 3.7% and (9.9)%, respectively. The differences between the actual consolidated effective income tax rate and the U.S. federal statutory rate were primarily attributable to an increase in valuation allowance on deferred tax assets and the allocation of losses on noncontrolling interests and redeemable noncontrolling interests.

The Company sells solar energy systems to investment Funds. As the investment Funds are consolidated by the Company, the gain on the sale of the assets has been eliminated in the consolidated financial statements, however gains on sale are recognized for tax purposes.

Tax Cuts and Jobs Act

On December 22, 2017, the U.S, government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the “Tax Act”). While the Company has fully accounted for the impact of the Tax Act, it will continue to monitor additional clarification and guidance from the IRS, including guidance related to Section 451(c) income recognition that could lead to the Company utilizing a portion of its net operating losses.

Uncertain Tax Positions

As of March 31, 2019 and December 31, 2018, the Company had $0.6 million of unrecognized tax benefits related to an acquisition in 2015. In addition, there was $0.2 million of interest and penalties for uncertain tax positions as of March 31, 2019 and December 31, 2018. Due to the expiration of federal and California statute of limitations, the Company expects the total amount of gross unrecognized tax benefits will decrease by $0.5 million within 12 months of March 31, 2019.

Net Operating Loss Carryforwards

As a result of the Company’s net operating loss carryforwards as of March 31, 2019 and December 31, 2018, the Company does not expect to pay income tax, including in connection with its income tax provision for the three months ended March 31, 2019. As of December 31, 2018, the Company had net operating loss carryforwards for federal, California, and other state income tax purposes of approximately $1.1 billion, $572.2 million, 535.8 million, respectively, which will begin to expire in the year 2028, 2028, and 2024, respectively, if not utilized. The Company does not expect to pay any income taxes until the Company's net operating losses are fully utilized. Federal and certain state net operating loss carryforwards generated in tax years beginning after December 31, 2017 have indefinite carryover periods and do not expire, but are limited to the amount that can be utilized in any one year.

Note 15. Commitments and Contingencies

Letters of Credit

As of March 31, 2019 and December 31, 2018, the Company had $14.4 million and $9.7 million, respectively, of unused letters of credit outstanding, which carry fees of 2.75% - 3.25% per annum and 2.50% - 3.25% per annum, respectively.

Operating and Finance Leases

The Company leases real estate under non-cancellable-operating leases and equipment under finance leases.

The components of lease expense were as follows (in thousands):

	Three Months Ended March 31,	
	2019	2018
Finance lease cost:		
Amortization of right-of-use assets	$ 3,484	$ 2,634
Interest on lease liabilities	239	119
Operating lease cost	2,879	2,629
Short-term lease cost	524	201
Variable lease cost	877	777
Sublease income	(156)	(106)
Total lease cost	$ 7,847	$ 6,254

Other information related to leases was as follows (in thousands):

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 2,567	$ 2,600
Operating cash flows from finance leases	201	109
Financing cash flows from finance leases	3,060	2,159
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	20,395	1,117
Finance leases	3,566	99
Weighted average remaining lease term (years):		
Operating leases	5.55	3.89
Finance leases	2.90	1.87
Weighted average discount rate:		
Operating leases	5.2%	4.1%
Finance leases	4.3%	3.1%

Future minimum lease payments under non-cancellable leases as of March 31, 2019 were as follows (in thousands):

	Operating Leases	Sublease Income	Net Operating Leases	Finance Leases
2019	$ 11,952	$ 777	$ 11,175	$ 10,060
2020	11,878	791	11,087	5,453
2021	10,538	439	10,099	3,587
2022	9,101	—	9,101	1,568
2023	8,189	—	8,189	60
Thereafter	10,677	—	10,677	49
Total future lease payments	62,335	2,007	60,328	20,777
Less: Amount representing interest	6,200	—	6,200	1,072
Present value of future payments	56,135	2,007	54,128	19,705
Less: Short term leases not recorded as a liability	11,761	—	11,761	—
Less: Tenant incentives	3,186	—	3,186	—
Revised Present value of future payments	41,188	2,007	39,181	19,705
Less: Current portion	9,462	—	9,462	9,459
Long-term portion	$ 31,726	$ 2,007	$ 29,719	$ 10,246

During the three months ended March 31, 2019, the Company entered into two non-cancellable operating lease agreements over the next five to seven years for corporate office space in San Francisco, California, and Denver, Colorado, to replace existing office space whose lease terms expire in 2019.

Purchase Commitment

The Company entered into purchase commitments, which have the ability to be canceled without significant penalties, with multiple suppliers to purchase $60.6 million of photovoltaic modules and inverters by the end of 2019.

Warranty Accrual

The Company accrues warranty costs when revenue is recognized for solar energy systems sales, based on the estimated future costs of meeting its warranty obligations. Warranty costs primarily consist of replacement costs for supplies and labor costs for service personnel since warranties for equipment and materials are covered by the original manufacturer's warranty (other than a small deductible in certain cases). As such, the warranty reserve is immaterial in all periods presented. The Company makes and revises these estimates based on the number of solar energy systems under warranty, the Company's historical experience with warranty claims, assumptions on warranty claims to occur over a systems' warranty period and the Company's estimated replacement costs.

ITC and Cash Grant Indemnification

The Company is contractually committed to compensate certain investors for any losses that they may suffer in certain limited circumstances resulting from reductions in ITCs or U.S. Treasury grants. Generally, such obligations would arise as a result of reductions to the value of the underlying solar energy systems as assessed by the Internal Revenue Service (the "IRS"). At each balance sheet date, the Company assesses and recognizes, when applicable, the potential exposure from this obligation based on all the information available at that time, including any audits undertaken by the IRS. The Company believes that this obligation is not probable based on the facts known as of the filing date of this Quarterly Report on Form 10-Q. The maximum potential future payments that the Company could have to make under this obligation would depend largely on the difference between the prices at which the solar energy systems were sold or transferred to the Funds (or, in certain structures, the fair market value claimed in respect of such systems (referred to as "claimed values")) and the eligible basis determined by the IRS. The Company set the purchase prices and claimed values based on fair market values determined with the assistance of an independent third-party appraisal with respect to the systems that generate ITCs that are passed-through to and claimed by the Fund investors. Since the Company cannot determine how the IRS may evaluate system values used in claiming ITCs, the Company is unable to reliably estimate the maximum potential future payments that it could have to make under this obligation as of each balance sheet date, though any potential future payments are mitigated by the insurance policy described below. In April 2018, the Company purchased an insurance policy providing for certain payments by the insurers in the event there is any final determination (including a judicial determination) that reduced the ITCs claimed in respect of solar energy systems sold or transferred to most Funds through April 2018, or later, in the case of Funds added to the policy after such date. In general, the policy indemnifies the Company and related parties for additional taxes (including penalties and interest) owed in respect of lost ITCs, gross-up costs and expenses incurred in defending such claim, subject to negotiated exclusions from, and limitations to, coverage.

Litigation

The Company is subject to certain legal proceedings, claims, investigations and administrative proceedings in the ordinary course of its business. The Company records a provision for a liability when it is both probable that the liability has been incurred and the amount of the liability can be reasonably estimated. These provisions, if any, are reviewed at least quarterly and adjusted to reflect the impacts of negotiations, settlements, rulings, advice of legal counsel and other information and events pertaining to a particular case. Depending on the nature and timing of any such proceedings that may arise, an unfavorable resolution of a matter could materially affect the Company's future consolidated results of operations, cash flows or financial position in a particular period.

On November 20, 2015, a putative class action captioned *Slovin et al. v. Sunrun Inc. and Clean Energy Experts, LLC* , Case No. 4:15-cv-05340, was filed in the United States District Court, Northern District of California. The complaint generally alleged violations of the Telephone Consumer Protection Act (the "TCPA") on behalf of an individual and putative classes of persons alleged to be similarly situated. Plaintiffs filed a First Amended Complaint on December 2, 2015, and a Second Amended Complaint on March 25, 2016, also asserting individual and putative class claims under the TCPA. By Order entered on April 28, 2016, the Court granted the Company's motion to strike the class allegations set forth in the Second Amended Complaint, and granted leave to amend. Plaintiffs filed a Third Amended Complaint on July 12, 2016 asserting individual and putative class claims under the TCPA. On October 12, 2016, the Court denied the Company's motion to again strike the class allegations set forth in the Third Amended Complaint. On October 3, 2017, plaintiffs filed a motion for leave to file a Fourth Amended Complaint, seeking to, among other things, revise the definitions of the classes that plaintiffs seek to represent. In each iteration of their complaint, plaintiffs seek statutory damages, equitable and injunctive relief, and attorneys' fees and costs, on behalf of themselves and the absent classes. On April 12, 2018, the Company and plaintiffs advised the Court that they reached a settlement in principle, and the Court vacated all deadlines relating to the motion for class certification. On September 27, 2018, Plaintiffs filed a motion for preliminary approval to settle all claims against the Company for $5.5 million, which was accrued as of March 31, 2018. On November 27, 2018, a hearing was held on Plaintiff's motion for preliminary approval. The Court requested certain clarifications be made to the proposed settlement agreement and notice documents. On January 11, 2019, Plaintiffs filed revised settlement documents reflecting the changes requested by the Court, and on January 29, 2019, the Court granted preliminary approval of the settlement.

Most, if not all, of the claims asserted in the lawsuit relate to activities allegedly engaged in by third-party vendors, for which the Company denies any responsibility. The vendors are contractually obligated to indemnify the Company for losses related to the conduct alleged. The Company has denied, and continues to deny, the claims alleged and the settlement does not reflect any admission of fault, wrongdoing or liability. The settlement is subject to definitive documentation, class notice and court approval.

On May 3, 2017, a purported shareholder class action captioned *Fink, et al. v. Sunrun Inc., et al.* , Case No. 3:17-cv-02537, was filed in the United States District Court, Northern District of California, against the Company and certain of the Company's directors and officers. The complaint generally alleges that the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and SEC Rule 10b-5, by making false or misleading statements in connection with public filings made between September 15, 2015 and March 8, 2017 regarding the number of customers who canceled contracts after signing up for the Company's home-solar energy system. The plaintiff seeks compensatory damages, including interest, attorney's fees, and costs, on behalf of all persons other than the defendants who purchased the Company's securities between September 16, 2015 and May 2, 2017. On May 4, 2017, a purported shareholder class action captioned *Hall, et al. v. Sunrun Inc., et al.* , Case No. 3:17-cv-02571, was filed in the United States District Court, Northern District of California. On May 18, 2017, a purported shareholder class action captioned *Sanogo, et al. v. Sunrun Inc., et al.* , Case No. 3:17-cv-02865, was filed in the United States District Court, Northern California District of California. The *Hall* and *Sanogo* complaints are substantially similar to the *Fink* complaint, and seek similar relief against similar defendants on behalf of a substantially similar class. On August 23, 2017, the *Fink*, *Hall*, and *Sanogo* actions were consolidated, and on September 25, 2017, plaintiffs filed a consolidated amended complaint which alleges the same underlying violations as the original *Fink*, *Hall* and *Sanogo* complaints (such consolidated action referred to as the "federal court litigation"). On April 5, 2018, the court granted the Company's motion to dismiss without prejudice. Plaintiffs filed a second amended complaint on May 3, 2018. On July 19, 2018, the court again granted defendants' motion to dismiss without prejudice.

On August 8, 2018, the Company reached an agreement in principle with plaintiffs to settle all claims asserted in the federal court litigation against all defendants for $2.5 million, all of which will be funded by the Company's insurers. The Company and all defendants have denied, and continue to deny, the claims alleged in the federal court litigation and the settlement does not reflect any admission of fault, wrongdoing or liability as to any defendant. On November 20, 2018, the Court granted preliminary approval of the settlement. On March 4, 2019, the court granted final approval of the settlement and judgment.

On June 29, 2017, a shareholder derivative complaint captioned *Barbara Sue Sklar Living Trust v. Sunrun Inc. et al.* , was filed in the United States District Court, Northern District of California, against the Company and certain of the Company's directors and officers. The complaint generally alleges that the defendants violated Section 14(a) of the Exchange Act by making false or misleading statements in connection with public filings, including proxy statements, made between September 10, 2015 and May 3, 2017 regarding the number of customers who cancelled contracts after signing up for the Company's home solar energy system. The Plaintiff seeks, among other things, damages in favor of the Company, certain corporate actions to purportedly improve the Company's corporate governance, and an award of costs and expenses to the putative plaintiff stockholder, including attorneys' fees.

On April 5, 2018, a stockholder derivative complaint captioned *Leonard Olsen v. Sunrun Inc. et al.* , was filed in the United States District Court, District of Delaware, against the Company and certain of the Company's directors and officers. The *Olsen* complaint is substantially similar to the *Sklar* complaint, alleges that the defendants breached their fiduciary duties and violated Section 14(a) of the Exchange Act in connection with public statements made between September 16, 2015 and May 21, 2017, and seeks similar relief.

On January 28, 2019, the Company reached an agreement in principle to settle all claims asserted in the *Sklar* and *Olsen* derivative actions against all defendants. Under the terms of the proposed settlement, the Company agreed to adopt certain corporate governance measures in the future. The Company and all defendants have denied, and continue to deny, the claims alleged in the derivative actions and the settlement does not reflect any admission of fault, wrongdoing or liability as to any defendant. The settlement is subject to definitive documentation and court approval.

Note 16. Earnings Per Share

The computation of the Company's basic and diluted net (loss) income per share is as follows (in thousands, except per share amounts):

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Numerator:		
Net (loss) income attributable to common stockholders	$ (13,862)	$ 28,032
Denominator:		
Weighted average shares used to compute net (loss) income per share attributable to common stockholders, basic	113,912	107,449
Weighted average effect of potentially dilutive shares to purchase common stock	—	3,332
Weighted average shares used to compute net (loss) income per share attributable to common stockholders, diluted	113,912	110,781
Net (loss) income per share attributable to common stockholders		
Basic	$ (0.12)	$ 0.26
Diluted	$ (0.12)	$ 0.25

The following shares were excluded from the computation of diluted net (loss) income per share as the impact of including those shares would be anti-dilutive (in thousands):

	Three Months Ended March 31, 2019	Three Months Ended March 31, 2018
Warrants	—	1,251
Outstanding stock options	1,313	9,917
Unvested restricted stock units	1,480	1,779
Total	2,793	12,947

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The discussion in this Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and the Private Securities Litigation Reform Act of 1995, which statements involve substantial risks and uncertainties. Forward-looking statements generally relate to future events or our future financial or operating performance. In some cases, you can identify forward-looking statements because they contain words such as “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this Quarterly Report on Form 10-Q include, but are not limited to, statements about:

- the availability of rebates, tax credits and other financial incentives, and the expected decreases to the federal commercial and residential investment tax credits ("ITCs") that begin after December 31, 2019;
- determinations by the Internal Revenue Service of the fair market value of our solar energy systems;
- the retail price of utility-generated electricity or electricity from other energy sources;
- regulatory and policy development and changes;
- our ability to manage our supply chains and distribution channels;
- our industry’s, and specifically our, continued ability to manage costs (including, but not limited to, equipment costs) associated with solar service offerings;
- our strategic partnerships and expected benefits of such partnerships;
- the sufficiency of our cash, investment fund commitments and available borrowings to meet our anticipated cash needs;
- our need and ability to raise capital, refinance existing debt, and finance our operations and solar energy systems from new and existing investors;
- the potential impact of interest rates on our interest expense;
- our business plan and our ability to effectively manage our growth, including our rate of revenue growth;
- our ability to further penetrate existing markets, expand into new markets and our expectations regarding market growth (including, but not limited to, expected cancellation rates);
- our expectations concerning relationships with third parties, including the attraction, retention and continued existence of qualified solar partners;
- the impact of seasonality on our business;
- our investment in research and development and new product offerings;
- our ability to protect our intellectual property and maintain our brand;
- our expectations regarding certain performance objectives and the renewal rates and purchase value of our solar energy systems after expiration of our Customer Agreements; and
- the calculation of certain of our key financial and operating metrics and accounting policies.

These forward-looking statements are subject to a number of risks, uncertainties and assumptions, including those described in the section titled “Risk Factors” and elsewhere in this Quarterly Report on Form 10-Q. Moreover, we operate in a very competitive and rapidly changing environment, and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Quarterly Report on Form 10-Q may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

You should not rely upon forward-looking statements as predictions of future events. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee that the future results, levels of activity, performance or events and circumstances reflected in the forward-looking statements will be achieved or occur. Moreover, neither we nor any other person assumes responsibility for the accuracy and completeness of the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this Quarterly Report on Form 10-Q to conform these statements to actual results or to changes in our expectations, except as required by law.

You should read this Quarterly Report on Form 10-Q and the documents that we reference in this Quarterly Report on Form 10-Q and have filed with the Securities and Exchange Commission (the "SEC") as exhibits to this Quarterly Report on Form 10-Q with the understanding that our actual future results, levels of activity, performance, and events and circumstances may be materially different from what we expect.

Overview

Sunrun's mission is to provide homeowners with clean, affordable solar energy and storage, and a best-in-class customer experience. In 2007, we pioneered the residential solar service model, creating a low-cost solution for homeowners seeking to lower their energy bills. By removing the high initial cost and complexity of cash system sales that used to define the residential solar industry, we have fostered the industry's rapid growth and exposed an enormous market opportunity. Our relentless drive to increase the accessibility of solar energy is fueled by our enduring vision: to create a planet run by the sun.

We provide clean, solar energy typically at savings compared to traditional utility energy. Our primary customers are residential homeowners. We also offer battery storage along with solar systems to our customers in select markets and sell our services to certain commercial developers through our multi-family and new homes offerings. After inventing the residential solar service model and recognizing its enormous market potential, we have built the infrastructure and capabilities necessary to rapidly acquire and serve customers in a low-cost and scalable manner. Today, our scalable operating platform provides us with a number of unique advantages. First, we are able to drive distribution by marketing our solar service offerings through multiple channels, including our diverse partner network and direct-to-consumer operations. This multi-channel model supports broad sales and installation capabilities, which together allow us to achieve capital-efficient growth. Second, we are able to provide differentiated solutions to our customers that, combined with a great customer experience, we believe will drive meaningful margin advantages for us over the long term as we strive to create the industry's most valuable and satisfied customer base.

Our core solar service offerings are provided through our lease and power purchase agreements, which we refer to as our "Customer Agreements" and which provide homeowners with simple, predictable pricing for solar energy that is insulated from rising retail electricity prices. While homeowners have the option to purchase a solar energy system outright from us, most of our customers choose to buy solar as a service from us through our Customer Agreements without the significant upfront investment of purchasing a solar energy system. With our solar service offerings, we install solar energy systems on our customers' homes and provide them the solar power produced by those systems for typically a 20-year initial term. In certain markets, we offer a 25-year initial term service offering. In addition, we monitor, maintain and insure the system during the term of the contract. In exchange, we receive predictable cash flows from high credit quality customers and qualify for tax and other benefits. We finance portions of these tax benefits and cash flows through tax equity, non-recourse debt and project equity structures in order to fund our upfront costs, overhead and growth investments. We develop valuable customer relationships that can extend beyond this initial contract term and provide us an opportunity to offer additional services in the future, such as our home battery storage service. Since our founding, we have continued to invest in a platform of services and tools to enable large scale operations for us and our partner network, and these partners include solar integrators, sales partners, installation partners and other strategic partners. The platform includes processes and software, as well as fulfillment and acquisition of marketing leads. We believe our platform empowers new market entrants and smaller industry participants to profitably serve our large and underpenetrated market without making the significant investments in technology and infrastructure required to compete effectively against established industry players. Our platform provides the support for our multi-channel model, which drives broad customer reach and capital-efficient growth.

Delivering a differentiated customer experience is core to our strategy. We emphasize a customized solution, including a design specific to each customer's home and pricing configurations that typically drive both customer savings and value to us. We believe that our passion for engaging our customers, developing a trusted brand, and providing a customized solar service offering resonates with our customers who are accustomed to a traditional residential power market that is often overpriced and lacking in customer choice.

We have experienced substantial growth in our business and operations since our inception in 2007. As of March 31, 2019, we operated the second largest fleet of residential solar energy systems in the United States and provided our solar services to approximately 242,000 customers in 22 states, as well as the District of Columbia and Puerto Rico. We have deployed an aggregate of 1,661 megawatts ("MW") as of March 31, 2019, and our Gross Earning Assets as of March 31, 2019 were approximately $3.2 billion. Please see the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations — Key Operating Metrics" for more details on how we calculate Megawatts Deployed and Gross Earning Assets.

We also have a long track record of attracting low-cost capital from diverse sources, including tax equity and debt investors. Since inception we have raised tax equity investment funds to finance the installation of solar energy systems.

Investment Funds

Our Customer Agreements provide for recurring customer payments, typically over 20 or 25 years, and the related solar energy systems are generally eligible for ITCs, accelerated tax depreciation and other government or utility incentives. Our financing strategy is to monetize these benefits at a low weighted average cost of capital. This low cost of capital enables us to offer attractive pricing to our customers for the energy generated by the solar energy system on their homes. Historically, we have monetized a portion of the value created by our Customer Agreements and the related solar energy systems through investment funds. These assets are attractive to fund investors due to the long-term, recurring nature of the cash flows generated by our Customer Agreements, the high credit scores of our customers, the fact that energy is a non-discretionary good and our low loss rates. In addition, fund investors can receive attractive after-tax returns from our investment funds due to their ability to utilize ITCs, accelerated depreciation and certain government or utility incentives associated with the funds' ownership of solar energy systems.

From inception to May 6, 2019, we have formed 40 investment funds. Of these, 30 are currently active and are described below. We have established different types of investment funds to implement our asset monetization strategy. Depending on the nature of the investment fund, cash may be contributed to the investment fund by the investor upfront or in stages based on milestones associated with the design, construction or interconnection status of the solar energy systems. The cash contributed by the fund investor is used by the investment fund to purchase solar energy systems. The investment funds either own or enter into a master lease with a Sunrun subsidiary for the solar energy systems, Customer Agreements and associated incentives. We receive on-going cash distributions from the investment funds representing a portion of the monthly customer payments received. We use the upfront cash, as well as on-going distributions, to cover our costs associated with designing, purchasing and installing the solar energy systems. In addition, we also use debt, equity and other financing strategies to fund our operations. The allocation of the economic benefits between us and the fund investor and the corresponding accounting treatment varies depending on the structure of the investment fund.

We currently utilize three legal structures in our investment funds, which we refer to as: (i) pass-through financing obligations, (ii) partnership flips and (iii) joint venture ("JV") inverted leases. We reflect pass-through financing obligations on our consolidated balance sheet as a pass-through financing obligation. We record the investor's interest in partnership flips or JV inverted leases (which we define collectively as "consolidated joint ventures") as noncontrolling interests or redeemable noncontrolling interests. These consolidated joint ventures are usually redeemable at our option and, in certain cases, at the investor's option. If redemption is at our option or the consolidated joint ventures are not redeemable, we record the investor's interest as a noncontrolling interest and account for the interest using the hypothetical liquidation at book value ("HLBV") method. If the investor has the option to put their interest to us, we record the investor's interest as a redeemable noncontrolling interest at the greater of the HLBV and the redemption value.

The table below provides an overview of our current investment funds (dollars in millions):

	Pass-Through Financing Obligations	Consolidated Joint Ventures	
		Partnership Flip	JV Inverted Lease
Consolidation	Owner entity consolidated, tenant entity not consolidated	Single entity, consolidated	Owner and tenant entities consolidated
Balance sheet classification	Pass-through financing obligation	Redeemable noncontrolling interests and noncontrolling interests	Redeemable noncontrolling interests and noncontrolling interests
Revenue from ITCs	Recognized on the PTO date	None	None
Method of calculating investor interest	Effective interest rate method	Greater of HLBV or redemption value	Greater of HLBV or redemption value; or pro rata
Liability balance as of March 31, 2019	$ 340.8	N/A	N/A
Noncontrolling interest balance (redeemable or otherwise) as of March 31, 2019	N/A	$ 480.5	$ 34.7
Number of funds (as of March 31, 2019)	6	21	4
MW deployed (as of March 31, 2019)	220.6	954.7	114.0
Carrying value of solar energy systems, net (as of March 31, 2019)	$ 582.7	$ 2,427.3	$ 349.3
Contributions from third-party fund investors (through March 31, 2019)	$ 763.4	$ 2,034.5	$ 274.6

For further information regarding our investment funds, including the associated risks, see Item 1A. *Risk Factors*— "Our ability to provide our solar service offerings to homeowners on an economically viable basis depends in part on our ability to finance these systems with fund investors who seek particular tax and other benefits", as well as Note 10, *Pass-through Financing Obligations*, Note 11, *VIE Arrangements* and Note 12, *Redeemable Noncontrolling Interests and Equity* to our consolidated financial statements appearing elsewhere in this Quarterly Report on Form 10-Q.

Key Operating Metrics

We regularly review a number of metrics, including the following key operating metrics, to evaluate our business, measure our performance, identify trends affecting our business, formulate financial projections and make strategic decisions. Some of our key operating metrics are estimates that are based on our management's beliefs and assumptions and on information currently available to management. Although we believe that we have a reasonable basis for each of these estimates, we caution you that these estimates are based on a combination of assumptions that may prove to be inaccurate over time. Any inaccuracies could be material to our actual results when compared to our calculations. Please see the section titled "Risk Factors" in this Quarterly Report on Form 10-Q for more information. Furthermore, other companies may calculate these metrics differently than we do now or in the future, which would reduce their usefulness as a comparative measure.

- *Megawatts Deployed* represents the aggregate megawatt production capacity of our solar energy systems, whether sold directly to customers or subject to executed Customer Agreements, for which we have (i) confirmation that the systems are installed on the roof, subject to final inspection or (ii) in the case of certain system installations by our partners, accrued at least 80% of the expected project cost.

- *Gross Earning Assets* represents the net cash flows (discounted at 6%) we expect to receive during the initial term of our Customer Agreements (typically 20 or 25 years) for systems that have been deployed as of the measurement date, plus a discounted estimate of the value of the Customer Agreement renewal term or solar energy system purchase at the end of the initial term. Consistent with industry standards, we use a discount rate of 6%. We consider a discount rate of 6% to be appropriate and consistent with recent market transactions that demonstrate that a portfolio of residential solar homeowner contracts is an asset class that can be securitized successfully on a long-term basis, with a coupon of less than 5%. We calculate the Gross Earning Assets value of the purchase or renewal amount at the expiration of the initial contract term assuming either a system purchase or a five year renewal (for our 25-year Customer Agreements) or a 10-year renewal (for our 20-year Customer Agreements), in each case forecasting only a 30-year customer relationship (although the customer may renew for additional years, or thereafter purchase the system), at a contract rate equal to 90% of the customer's contractual rate in effect at the end of the initial contract term. After the initial (generally 20 or 25 year) contract term, our Customer Agreements typically automatically renew on an annual basis and the rate is initially set at up to a 10% discount to then-prevailing power prices.

Gross Earning Assets is calculated net of estimated cash distributions to investors in consolidated joint ventures and estimated operating, maintenance and administrative expenses for systems deployed as of the measurement date. In calculating Gross Earning Assets, we deduct estimated cash distributions to our project equity financing providers. In calculating Gross Earning Assets, we do not deduct customer payments we are obligated to pass through to investors in pass-through financing obligations as these amounts are reflected on our balance sheet as long-term and short-term pass-through financing obligations, similar to the way that debt obligations are presented. In determining our finance strategy, we use pass-through financing obligations and long-term debt in an equivalent fashion as the schedule of payments of distributions to pass-through financing obligation investors is more similar to the payment of interest to lenders than the internal rates of return (IRRs) paid to investors in other tax equity structures.

- *Gross Earning Assets Under Energy Contract* represents the net cash flows during the initial term of our Customer Agreements (less substantially all value from SRECs prior to July 1, 2015), for systems deployed as of the measurement date.
- *Gross Earning Assets Value of Purchase or Renewal* is the forecasted net present value we would receive upon or following the expiration of the initial Customer Agreement term (either in the form of cash payments during any applicable renewal period or a system purchase at the end of the initial term), for systems deployed as of the measurement date.

Gross Earning Assets is forecasted as of a specific date. It is forward-looking, and we use judgment in developing the assumptions used to calculate it. Factors that could impact Gross Earning Assets include, but are not limited to, customer payment defaults, or declines in utility rates or early termination of a contract in certain circumstances, including prior to installation.

	As of March 31,	
	2019	**2018**
Cumulative Megawatts Deployed (end of period)	1,661	1,269

	As of March 31,	
	2019	**2018**
	(in thousands)	
Gross Earning Assets Under Energy Contract	$ 2,152,932	$ 1,582,581
Gross Earning Assets Value of Purchase or Renewal	1,013,826	800,436
Gross Earning Assets	$ 3,166,758	$ 2,383,017

The tables below provide a range of Gross Earning Asset amounts if different default, discount and purchase and renewal assumptions were used.

Gross Earning Assets Under Energy Contract:

	As of March 31, 2019				
	Discount rate				
Default rate	4%	5%	6%	7%	8%
			(in thousands)		
5%	$ 2,471,551	$ 2,274,462	$ 2,099,611	$ 1,944,032	$ 1,805,200
0%	$ 2,537,171	$ 2,333,524	$ 2,152,932	$ 1,992,313	$ 1,849,046

Gross Earning Assets Value of Purchase or Renewal:

	As of March 31, 2019				
	Discount rate				
Purchase or Renewal rate	4%	5%	6%	7%	8%
			(in thousands)		
80%	$ 1,334,745	$ 1,084,162	$ 883,596	$ 722,519	$ 592,724
90%	$ 1,531,460	$ 1,243,951	$ 1,013,827	$ 829,007	$ 680,078
100%	$ 1,728,174	$ 1,403,740	$ 1,144,057	$ 935,496	$ 767,432

Total Gross Earning Assets:

	As of March 31, 2019				
	Discount rate				
Purchase or Renewal rate	4%	5%	6%	7%	8%
			(in thousands)		
80%	$ 3,871,916	$ 3,417,686	$ 3,036,528	$ 2,714,832	$ 2,441,770
90%	$ 4,068,631	$ 3,577,475	$ 3,166,758	$ 2,821,320	$ 2,529,124
100%	$ 4,265,345	$ 3,737,264	$ 3,296,988	$ 2,927,809	$ 2,616,478

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our financial statements, which have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP"). GAAP requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue, expenses and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances. In many instances, we could have reasonably used different accounting estimates, and in other instances, changes in the accounting estimates are reasonably likely to occur from period-to-period. Actual results could differ significantly from our estimates. Our future financial statements will be affected to the extent that our actual results materially differ from these estimates. For further information on all of our significant accounting policies, see Note 2, *Summary of Significant Accounting Policies* , to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

We believe that policies associated with our principles of consolidation, revenue recognition, impairment of long-lived assets, provision for income taxes and calculation of noncontrolling interests and redeemable noncontrolling interests have the greatest impact on our consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates.

Results of Operations

The results of operations presented below should be reviewed in conjunction with the consolidated financial statements and notes thereto included elsewhere in this Quarterly Report on Form 10-Q.

	Three Months Ended March 31,	
	2019	2018
	(in thousands, except per share data)	
Revenue:		
Customer agreements and incentives	$ 99,850	$ 66,990
Solar energy systems and product sales	94,654	77,373
Total revenue	194,504	144,363
Operating expenses:		
Cost of customer agreements and incentives	69,493	54,576
Cost of solar energy systems and product sales	77,799	64,579
Sales and marketing	55,953	44,079
Research and development	5,474	3,896
General and administrative	29,063	32,893
Amortization of intangible assets	893	1,051
Total operating expenses	238,675	201,074
Loss from operations	(44,171)	(56,711)
Interest expense, net	41,340	28,198
Other expenses (income), net	4,756	(1,692)
Loss before income taxes	(90,267)	(83,217)
Income tax (benefit) expense	(3,361)	8,203
Net loss	(86,906)	(91,420)
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(73,044)	(119,452)
Net (loss) income attributable to common stockholders	$ (13,862)	$ 28,032
Net (loss) income per share attributable to common stockholders		
Basic	$ (0.12)	$ 0.26
Diluted	$ (0.12)	$ 0.25
Weighted average shares used to compute net (loss) income per share attributable to common stockholders		
Basic	113,912	107,449
Diluted	113,912	110,781

Comparison of the Three Months Ended March 31, 2019 and 2018

Revenue

	Three Months Ended March 31,		Change	
	2019	2018	$	%
	(in thousands)			
Customer agreements	$ 78,528	$ 61,649	$ 16,879	27 %
Incentives	21,322	5,341	15,981	299 %
Customer agreements and incentives	99,850	66,990	32,860	49 %
Solar energy systems	58,436	33,998	24,438	72 %
Products	36,218	43,375	(7,157)	(17)%
Solar energy systems and product sales	94,654	77,373	17,281	22 %
Total revenue	$ 194,504	$ 144,363	$ 50,141	35 %

Customer Agreements and Incentives. The $16.9 million increase in revenue from Customer Agreements was primarily due to both an increase in solar energy systems under Customer Agreements being placed in service in the period from April 1, 2018 through March 31, 2019, plus a full quarter of revenue recognized in the first quarter of 2019 for systems placed in service in the first quarter of 2018 versus only a partial quarter of such revenue related to the period in which the assets were in service in 2018. Revenue from incentives consists of sales of ITCs and SRECs, which increased by $16.0 million during the three months ended March 31, 2019, compared to the prior year. The increase was primarily due to the sale of ITCs under a financing obligation fund opened in 2018.

Solar Energy Systems and Product Sales. Revenue from solar energy systems sales increased by $24.4 million compared to the prior year due to increased demand through retail partners. Product sales decreased by $7.2 million, primarily due to a decrease in the volume of wholesale products sold compared to the prior year period, which experienced an increase in the volume of wholesale products sold ahead of the anticipated tariffs on imported solar modules and cells (the "Section 201 Module Tariffs"), that were issued in January 2018 as described in Item 1A. Risk Factors below.

Operating Expenses

	Three Months Ended March 31,		Change	
	2019	2018	$	%
	(in thousands)			
Cost of customer agreements and incentives	$ 69,493	$ 54,576	$ 14,917	27 %
Cost of solar energy systems and product sales	77,799	64,579	13,220	20 %
Sales and marketing	55,953	44,079	11,874	27 %
Research and development	5,474	3,896	1,578	41 %
General and administrative	29,063	32,893	(3,830)	(12)%
Amortization of intangible assets	893	1,051	(158)	(15)%
Total operating expenses	$ 238,675	$ 201,074	$ 37,601	19 %

Cost of Customer Agreements and Incentives. The $14.9 million increase in Cost of customer agreements and incentives was primarily due to the increase in solar energy systems placed in service in the period from April 1, 2018 through March 31, 2019, plus a full quarter of costs recognized in the first quarter of 2019 for systems placed in service in the first quarter of 2018 versus only a partial quarter of such expenses related to the period in which the assets were in service in 2018.

The cost of Customer Agreements and incentives decreased to 70% of customer agreements and incentives revenue during the three months ended March 31, 2019, from 81% during the three months ended March 31, 2018 due to the $16.0 million increase in revenue from incentives, related to an increase in the sale of ITCs under a pass-through financing obligation fund opened in 2018. The cost of sales related to incentives was minimal.

Cost of Solar Energy Systems and Product Sales . The $13.2 million increase in Cost of solar energy systems and product sales was due to the corresponding net increase in the solar energy systems and product sales discussed above.

Sales and Marketing Expense. The $11.9 million increase in Sales and marketing expense was primarily attributable to an increase in headcount driving higher employee compensation. Included in sales and marketing expense is $2.7 million and $1.9 million of amortization of costs to obtain Customer Agreements for the period ended March 31, 2019 and 2018, respectively.

Research and Development Expense. The $1.6 million increase in Research and development expense was primarily attributable to hiring of personnel to support the growth of our business.

General and Administrative Expense . The $3.8 million decrease in General and administrative expenses primarily related to a one-time charge in the prior year's period related to a reserve against construction-in-progress relating to certain integrated partners.

Non-Operating Expenses

	Three Months Ended March 31,		Change	
	2019	2018	$	%
		(in thousands)		
Interest expense, net	$ 41,340	$ 28,198	$ 13,142	47 %
Other expenses (income), net	$ 4,756	$ (1,692)	$ 6,448	(381)%

Interest Expense, net. The increase in Interest expense, net of $13.1 million was related to additional non-recourse and pass-through financing obligation debt entered into subsequent to March 31, 2018. Included in net interest expense is $5.9 million and $5.6 million of non-cash interest recognized under Customer Agreements that have a significant financing component for the period ended March 31, 2019 and 2018, respectively.

Other Expenses (Income), net. The $4.8 million of Other expenses (income), net during the three months ended March 31, 2019 relates primarily to a loss on extinguishment of debt related to an early repayment of a pass-through financing obligation.

Income Tax Expense

	Three Months Ended March 31,		Change	
	2019	2018	$	%
		(in thousands)		
Income tax (benefit) expense	$ (3,361)	$ 8,203	$ (11,564)	(141)%

The tax benefit at the statutory rate of 21.0% for 2019 was reduced by the allocation of the losses to noncontrolling interests and redeemable noncontrolling interests of 17.0% and change in valuation allowance of 6.2% and increased by tax deductions from other miscellaneous items of 5.9%. The tax expense at the statutory rate of 21.0% for 2018 was reduced by the allocation of losses to noncontrolling interests and redeemable noncontrolling interests of 30.1% and increased by other miscellaneous items of 0.7%.

The decrease in Income tax (benefit) expense of $11.6 million primarily relates to a decrease in tax expense related to noncontrolling interests that was offset by an increase in valuation allowance, a decrease in state income taxes and an increase in tax benefits from stock compensation deductions. Given our net operating loss carryforwards as of December 31, 2018, we do not expect to pay income tax until our net operating losses are fully utilized. As of the year ended December 31, 2018, our federal and state net operating loss carryforwards were $1.1 billion and $1.1 billion, respectively. If not utilized, the federal net operating loss will begin to expire in 2028, and the state operating losses will begin to expire in 2024. Federal and certain state net operating loss carryforwards generated in tax years beginning after December 31, 2017 have indefinite carryover periods and do not expire.

Net Loss Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

	Three Months Ended March 31,		Change	
	2019	2018	$	%
	(in thousands)			
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	$ (73,044)	$ (119,452)	$ 46,408	(39)%

The decrease in net loss attributable to noncontrolling interests and redeemable noncontrolling interests of $46.4 million was primarily a result of entering into a pass-through financing obligation fund in 2018, which does not use the HLBV method to determine the amount of net income or loss attributable to noncontrolling interests and redeemable noncontrolling interests. Generally, new partnership funds generate larger losses attributable to noncontrolling interests and redeemable noncontrolling interests under the HLBV method in the first years after formation.

Liquidity and Capital Resources

As of March 31, 2019, we had cash of $245.6 million, which consisted of cash held in checking and savings accounts with financial institutions. We finance our operations mainly through a variety of financing fund arrangements that we have formed with fund investors, borrowings, cash generated from our sources of revenue, and proceeds from secured credit facilities arrangements with a syndicate of banks for up to $255.0 million and from secured, long-term non-recourse loan arrangements for up to $121.4 million. Our principal uses of cash are funding our business, including the costs of acquisition and installation of solar energy systems, satisfaction of our obligations under our debt instruments and other working capital requirements.

Our business model requires substantial outside financing arrangements to grow the business and facilitate the deployment of additional solar energy systems. The solar energy systems that are operational are expected to generate a positive return rate over the term of the Customer Agreement, typically 20 or 25-years. However, in order to grow, we will continue to be dependent on financing from outside parties. If financing is not available to us on acceptable terms if and when needed, we may be required to reduce planned spending, which could have a material adverse effect on our operations. While there can be no assurances, we anticipate raising additional required capital from new and existing investors. We believe our cash, investment fund commitments and available borrowings as further described below will be sufficient to meet our anticipated cash needs for at least the next 12 months. The following table summarizes our cash flows for the periods indicated:

	Three Months Ended March 31,	
	2019	2018
	(in thousands)	
Consolidated cash flow data:		
Net cash provided by (used in) operating activities	$ 11,415	$ (45,754)
Net cash used in investing activities	(201,397)	(164,711)
Net cash provided by financing activities	195,517	212,003
Net change in cash and restricted cash	$ 5,535	$ 1,538

Operating Activities

During the three months ended March 31, 2019, we generated $11.4 million in net cash from operating activities. The driver of our operating cash inflow consists of payments received from customers as well as incentives. During the three months ended March 31, 2019, deferred revenue increased by $95.5 million arising from a sale of the right to SRECs to be generated over the next 10 - 15 years by a group of solar energy systems. In connection with the sale, we repaid debt previously drawn against the rights to these SRECs, which is reflected in our financing activities below. The driver of our operating cash outflows primarily relates to the costs of our revenues, as well as sales, marketing and general and administrative costs. During the three months ended March 31, 2019, our operating cash outflows were $42.8 million from our net loss excluding non-cash and non-operating items. Changes in working capital resulted in a net cash outflow of $54.3 million.

During the three months ended March 31, 2018, we used $45.8 million in net cash in operating activities. The driver of our operating cash inflow consists of payments received from customers. During the three months ended March 31, 2018, our operating cash outflows were $32.6 million from our net loss excluding non-cash and non-operating items. Changes in working capital resulted in a net cash outflow of $13.2 million.

Investing Activities

During the three months ended March 31, 2019, we used $201.4 million in cash in investing activities. The majority was used to design, acquire and install solar energy systems and components under our long-term Customer Agreements.

During the three months ended March 31, 2018, we used $164.7 million in cash in investing activities. Of this amount, we used $163.2 million to acquire and install solar energy systems and components under our long-term Customer Agreements, and $1.5 million for capitalized software projects and the acquisition of office equipment.

Financing Activities

During the three months ended March 31, 2019, we generated $195.5 million from financing activities. This was primarily driven by $123.3 million in net proceeds from fund investors and $71.8 million in net proceeds from debt, offset by $3.0 million in repayments under finance lease obligations.

During the three months ended March 31, 2018, we generated $212.0 million from financing activities. This was primarily driven by $129.8 million in net proceeds from fund investors and $84.9 million in proceeds from debt, net of debt issuance costs and repayments, offset by $2.1 million in payments for finance lease obligations.

Debt and Financing Fund Commitments

Debt Instruments

For a discussion of the terms and conditions of debt instruments and changes thereof in the period, refer to Note 8, *Indebtedness,* to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Equity Instruments

Warrant. In August 2017, we entered into an agreement with an affiliate ("Contractor") of Comcast Corporation ("Comcast") whereby Contractor will receive lead or sales fees for new customers it brings to us over a 40-month term. We also issued Comcast a warrant to purchase up to 11,793,355 shares of our common stock, at an exercise price of $0.01 per warrant share. The warrant would initially vest 50.05% when both (i) Contractor has earned a lead or sales fee with respect to 30,000 of installed solar energy systems, and (ii) Contractor or its affiliates have spent at least $10.0 million in marketing and sales in connection with the agreement. Thereafter, the warrant would vest in five additional increments for each additional 6,000 installed solar energy systems. On November 7, 2018 the warrant vesting schedule was modified so that it will initially vest either (i) as to 10.0% if Contractor has earned a lead or sales fee with respect to 6,000 of installed solar energy systems by September 30, 2019 or (ii) as to 13.3% if Contractor has earned a lead or sales fee with respect to 8,000 of installed solar energy systems by December 31, 2019, provided that, in either case, Contractor or its affiliates have spent at least $25.0 million in marketing and sales in connection with the agreement. Thereafter, the warrant will vest in additional 8.3%

increments for each additional 5,000 installed solar energy systems. If the initial vesting conditions have not been met by December 31, 2019, the warrant will expire. As of May 8, 2019, none of the shares under this amended warrant have vested.

Investment Fund Commitments

As of March 31, 2019, we had undrawn committed capital of approximately $157.3 million that may only be used to purchase and install solar energy systems. We intend to establish new investment funds in the future, and we may also use debt, equity or other financing strategies to finance our business.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations as of March 31, 2019 (in thousands):

	Payments Due by Period				
	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 Years	Total
			(in thousands)		
Contractual Obligations:					
Debt obligations (including future interest)	$ 137,375	$ 696,452	$ 530,436	$ 1,037,565	$ 2,401,828
Purchase commitments	60,572	—	—	—	60,572
Distributions payable to noncontrolling interests and redeemable noncontrolling interests (1)	15,628	—	—	—	15,628
Financing lease obligations (including accrued interest)	10,060	9,040	1,628	49	20,777
Operating lease obligations, net of sublease income	11,175	21,186	17,290	10,677	60,328
Total contractual obligations	$ 234,810	$ 726,678	$ 549,354	$ 1,048,291	$ 2,559,133

(1) The foregoing table does not include the amounts we could be required to expend under our redemption obligations discussed above.

Off-Balance Sheet Arrangements

We include in our consolidated financial statements all assets and liabilities and results of operations of investment fund arrangements that we have entered into. We do not have any off-balance sheet arrangements.

Recent Accounting Pronouncements

See Note 2, *Summary of Significant Accounting Policies* , to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to certain market risks in the ordinary course of our business. Our primary exposure includes changes in interest rates because certain borrowings bear interest at floating rates based on LIBOR plus a specified margin. We sometimes manage our interest rate exposure on floating-rate debt by entering into derivative instruments to hedge all or a portion of our interest rate exposure in certain debt facilities. We do not enter into any derivative instruments for trading or speculative purposes. Changes in economic conditions could result in higher interest rates, thereby increasing our interest expense and operating expenses and reducing funds available for capital investments, operations and other purposes. For quantitative and qualitative disclosures about market risk, see Item 7A, "Authoritative and Qualitative Disclosures About Market Risk," of our annual report on Form 10-K for the year ended December 31, 2018. Our exposures to market risk have not changed materially since December 31, 2018.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer and our Chief Financial Officer, of the effectiveness of our "disclosure controls and procedures" as of the end of the period covered by this Quarterly Report on Form 10-Q, pursuant to Rules 13a-15(e) and 15d-15(e) under the Exchange Act.

In connection with that evaluation, our Chief Executive Officer and our Chief Financial Officer concluded that our disclosure controls and procedures were effective and designed to provide reasonable assurance that the information required to be disclosed is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms as of March 31, 2019. The term "disclosure controls and procedures," as defined in Rules 13a-15I and 15d-15I under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting identified in connection with the evaluation required by Rule 13a-15(d) and 15d-15(d) of the Exchange Act that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings.

See Note 15, *Commitments and Contingencies*, to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks and uncertainties described below, together with all of the other information in this Quarterly Report on Form 10-Q, including the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and related notes, before making a decision to invest in our common stock. The risks and uncertainties described below may not be the only ones we face. If any of the risks actually occur, our business, financial condition, results of operations, cash flows and prospects could be materially and adversely affected. In that event, the market price of our common stock could decline, and you could lose part or all of your investment.

Risks Related to Our Business and Our Industry

We need to raise capital to finance the continued growth of our residential solar service business. If capital is not available to us on acceptable terms, as and when needed, our business and prospects would be materially and adversely impacted. In addition, our business is affected by general economic

conditions and related uncertainties affecting markets in which we operate. Volatility in current economic conditions could adversely impact our business, including our ability to raise financing.

Our future success depends on our ability to raise capital from third parties to grow our business. To date, we have funded our business principally through low-cost tax equity investment funds. If we are unable to establish new investment funds when needed, or upon desirable terms, the growth of our solar service business would be impaired. Changes in tax law could affect our ability to establish such tax equity investment funds, impact the terms of existing or future funds, or reduce the pool of capital available for us to grow our business.

The contract terms in certain of our existing investment fund documents contain various conditions with respect to our ability to draw on financing commitments from the fund investors, including conditions that restrict our ability to draw on such commitments if an event occurs that could reasonably be expected to have a material adverse effect on the fund or, in some instances, us. If we are not able to satisfy such conditions due to events related to our business, a specific investment fund, developments in our industry, including tax or regulatory changes, or otherwise, and as a result, we are unable to draw on existing funding commitments, we could experience a material adverse effect on our business, liquidity, financial condition, results of operations and prospects. If any of the investors that currently invest in our investment funds decide not to invest in future investment funds to finance our solar service offerings due to general market conditions, concerns about our business or prospects or any other reason, or materially change the terms under which they are willing to provide future financing, we would need to identify new investors to invest in our investment funds and our cost of capital may increase.

In addition, our business and results of operations are materially affected by conditions in the global capital markets and the economy . A general slowdown or volatility in current economic conditions, stemming from the level of U.S. national debt, currency fluctuations, unemployment rates, the availability and cost of credit, the U.S. housing market, inflation levels, interest rates, energy costs and concerns over a slowing economy, could adversely affect our business, including our ability to raise financing.

There can be no assurance that we will be able to continue to successfully access capital in a manner that supports the growth of our business. Certain sources of capital may not be available in the future, and competition for any available funding may increase. We cannot be sure that we will be able to maintain necessary levels of funding without incurring high funding costs, unfavorable changes in the terms of funding instruments or the liquidation of certain assets. If we are unable to continue to offer a competitive investment profile, we may lose access to these funds or they may only be available on less favorable terms than those provided to our competitors or currently provided to us. If we are unable to arrange new or alternative methods of financing on favorable terms, our business, liquidity, financial condition, results of operations and prospects could be materially and adversely affected.

Rising interest rates will adversely impact our business.

Rising interest rates may increase our cost of capital. Our future success depends on our ability to raise capital from fund investors and obtain secured lending to help finance the deployment of our solar service offerings. Part of our business strategy is to seek to reduce our cost of capital through these arrangements to improve our margins, offset future reductions in government incentives and maintain the price competitiveness of our solar service offerings. Rising interest rates may have an adverse impact on our ability to offer attractive pricing on our solar service offerings to homeowners, which could impact the sales of our solar energy offerings.

The majority of our cash flows to date have been from solar service offerings under Customer Agreements that have been monetized under various investment fund structures. One of the components of this monetization is the present value of the payment streams from homeowners who enter into these Customer Agreements. If the rate of return required by capital providers, including debt providers, rises as a result of a rise in interest rates, it will reduce the present value of the homeowner payment stream and consequently reduce the total value derived from this monetization. Any measures that we could take to mitigate the impact of rising interest rates on our ability to secure third-party financing could ultimately have an adverse impact on the value proposition that we offer homeowners.

The solar energy industry is an emerging market that is constantly evolving and may not develop to the size or at the rate we expect.

The solar energy industry is an emerging and constantly evolving market opportunity. We believe the solar energy industry will still take several years to fully develop and mature, and we cannot be certain that the market will grow to the size or at the rate we expect. For example, we have experienced increases in cancellations of our Customer Agreements in certain geographic markets during certain periods in our operating history. Any future growth of the solar energy market and the success of our solar service offerings depend on many factors beyond our control, including recognition and acceptance of the solar service market by consumers, the pricing of alternative sources of energy, a favorable regulatory environment, the continuation of expected tax benefits and other incentives and our ability to provide our solar service offerings cost-effectively. If the markets for solar energy do not develop to the size or at the rate we expect, our business may be adversely affected.

Solar energy has yet to achieve broad market acceptance and depends in part on continued support in the form of rebates, tax credits and other incentives from federal, state and local governments. If this support diminishes, our ability to obtain external financing on acceptable terms, or at all, could be materially adversely affected. These types of funding limitations could lead to inadequate financing support for the anticipated growth in our business. Furthermore, growth in residential solar energy depends in part on macroeconomic conditions, retail prices of electricity and homeowner preferences, each of which can change quickly. Declining macroeconomic conditions, including in the job markets and residential real estate markets, could contribute to instability and uncertainty among homeowners and impact their financial wherewithal, credit scores or interest in entering into long-term contracts, even if such contracts would generate immediate and long-term savings.

Market prices of retail electricity generated by utilities or other energy sources could decline for a variety of reasons, as discussed further below . Any such declines in macroeconomic conditions or changes in homeowner preferences would adversely impact our business.

Our ability to provide our solar service offerings to homeowners on an economically viable basis depends in part on our ability to finance these systems with fund investors who seek particular tax and other benefits.

Our solar service offerings have been eligible for federal investment tax credits ("ITCs"), U.S. Treasury grants and other tax benefits. We have relied on, and will continue to rely on, tax equity investment funds, which are financing structures that monetize a substantial portion of those benefits, in order to finance our solar service offerings. If, for any reason, we are unable to continue to monetize those benefits through these arrangements, we may be unable to provide and maintain our solar service offerings for homeowners on an economically viable basis.

The availability of this tax-advantaged financing depends upon many factors, including:

- our ability to compete with other solar energy companies for the limited number of potential fund investors, each of which has limited funds and limited appetite for the tax benefits associated with these financings;
- the state of financial and credit markets;
- changes in the legal or tax risks associated with these financings; and
- non-renewal of these incentives or decreases in the associated benefits (including the anticipated step-down of the Commercial ITC described below).

The federal government currently offers a 30% ITC (the "Commercial ITC") under Section 48(a) of the Internal Revenue Code of 1986, as amended (the "Code"), for the installation of certain solar power facilities owned for business purposes. The depreciable basis of a solar facility is also reduced by 50% of the tax credit claimed. Similarly, the federal government currently offers a 30% investment tax credit ("Residential ITC") for the installation of certain solar power facilities owned by residential taxpayers. The Residential ITC and the Commercial ITC will step down to 26% for solar property commencing construction in 2020, then down to 22%

for solar property commencing construction in 2021, with the Residential ITC expiring after 2021 and the Commercial ITC further stepping down to 10% for both (i) solar property commencing construction after 2021 and (ii) solar property that commenced construction during or prior to 2021 but is placed in service after 2023.

Potential investors must remain satisfied that the funding structures that we offer will make the tax benefits associated with solar energy systems available to these investors, which depends on the investors' assessment of the tax law, the absence of any unfavorable interpretations of that law and the continued application of existing tax law and interpretations to our funding structures. Changes in existing law or interpretations of existing law by the Internal Revenue Service (the "IRS") and the courts could reduce the willingness of investors to invest in funds associated with these solar energy systems. Moreover, corporate tax rate reductions could reduce the appetite for tax benefits overall, which could reduce the pool of available funds. Additionally, certain tax deductions, such as depreciation, will have less value to investors, requiring additional cash to be paid to investors to meet return demands. Accordingly, we cannot assure you that this type of financing will continue to be available to us. New investment fund structures or other financing mechanisms may also become available, and if we are unable to take advantage of these fund structures and financing mechanisms, we may be at a competitive disadvantage. If, for any reason, we are unable to finance our solar service offerings through tax-advantaged structures or if we are unable to realize or monetize Commercial ITCs or other tax benefits, we may no longer be able to provide our solar service offerings to new homeowners on an economically viable basis, which would have a material adverse effect on our business, financial condition and results of operations.

If the Internal Revenue Service makes determinations that the fair market value of our solar energy systems is materially lower than what we have claimed, we may have to pay significant amounts to our fund investors and our business, financial condition and prospects may be materially and adversely affected.

We and our fund investors claim the Commercial ITC or the U.S. Treasury grant in amounts based on the fair market value of our solar energy systems. We have obtained independent appraisals to determine the fair market values we report for claiming Commercial ITCs and U.S. Treasury grants. The IRS reviews these fair market values. With respect to U.S. Treasury grants, the U.S. Treasury Department reviews the reported fair market value in determining the amount initially awarded, and the IRS may also subsequently audit the fair market value and determine that amounts previously awarded constitute taxable income for U.S. federal income tax purposes. With respect to Commercial ITCs, the IRS may review the fair market value on audit and determine that the tax credits previously claimed must be reduced. If the fair market value is determined in these circumstances to be less than what we reported, we may owe our fund investors an amount equal to this difference, plus any costs and expenses associated with a challenge to that valuation. We could also be subject to tax liabilities, including interest and penalties. If the IRS further disagrees now or in the future with the amounts we reported regarding the fair market value of our solar energy systems, it could have a material adverse effect on our business, financial condition and prospects. One of our investment funds has been selected for audit by the IRS. In addition, one of our investors is currently being audited by the IRS, and these investor audits involve a review of the fair market value determination of our solar energy systems. If these investor audits result in an adverse finding, we may be subject to an indemnity obligation to these investors. Since we cannot determine how the IRS will evaluate system values used in claiming ITCs, we are unable to reliably estimate the maximum potential future payments that we would have to make under this obligation as of each balance sheet date. We purchased an insurance policy in 2018 insuring us and related parties for additional taxes owed in respect of lost ITCs, gross-up costs and expenses incurred in defending the types of claims described above. However, this policy only covers certain investment funds and has negotiated exclusions from, and limitations to, coverage and therefore may not cover us for all such lost ITC, taxes, costs and expenses.

We have historically benefited from declining costs in our industry, and our business and financial results may be harmed not only as a result of any increases in costs associated with our solar service offerings but also any failure of these costs to continue to decline as we currently expect. If we do not reduce our cost structure in the future, our ability to continue to be profitable may be impaired.

Declining costs related to raw materials, manufacturing and the sale and installation of our solar service offerings have been a key driver in the pricing of our solar service offerings and, more broadly, homeowner adoption of solar energy. While historically the prices of solar panels and raw materials have declined, the cost of solar panels and raw materials could increase in the future, and such products' availability could decrease, due to a variety of factors, including tariffs and trade barriers, export regulations, regulatory or contractual limitations, industry market requirements and changes in technology and industry standards.

For example, in the past, we and our solar partners purchased a significant portion of the solar panels used in our solar service offerings from manufacturers based in China or containing components from China. In January 2018, in response to a petition filed under Section 201 of the Trade Act of 1974, the President imposed four-year tariffs on imported solar modules and imported solar cells not assembled into other products (the "Section 201 Module Tariffs") that apply to all imports above a 2.5 gigawatts (GW) annual threshold. The Section 201 Module Tariffs were 30% in 2018, and step down 5% annually in the second, third and fourth years. In September 2018, the U.S. Trade Representative ("USTR") granted SunPower Corporation ("SunPower") an exemption, making SunPower a domestic solar panel manufacturer that is not subject to the Section 201 Module Tariffs. This could give SunPower, which offers home solar service offerings using its own panels a cost advantage over competitors like us that rely, in part, on imported solar panels that are currently subject to these tariffs.

The United States and China each imposed additional new tariffs in 2018 on various products imported from the other country . These include an additional 25% tariff on solar panels and cells that are manufactured in China and a tariff on inverters, certain batteries and other electrical equipment initially set at 10%. The tariff had been expected to increase to 25% in early 2019, but the White House has delayed the increase as it negotiates with China. The United States also has, from time to time, announced potential tariffs on goods imported from other countries. We cannot predict what actions may ultimately be taken with respect to tariffs or trade relations between the United States and other countries, what products may be subject to such actions, or what actions may be taken by the other countries in retaliation. The tariffs described above, the adoption and expansion of trade restrictions, the occurrence of a trade war, or other governmental action related to tariffs, trade agreements or related policies have the potential to adversely impact our supply chain and access to equipment, our costs and ability to economically serve certain markets. Any such cost increases or decreases in availability could slow our growth and cause our financial results and operational metrics to suffer.

Other factors may also impact costs, such as our choice to make significant investments to drive growth in the future .

We rely on net metering and related policies to offer competitive pricing to homeowners in all of our current markets, and changes to such policies may significantly reduce demand for electricity from our solar service offerings.

As of March 31, 2019, a substantial majority of states have adopted net metering policies. Net metering policies are designed to allow homeowners to serve their own load using on-site energy generation. Electricity that is generated by a solar energy system and consumed on-site avoids a retail energy purchase from the applicable utility, and excess electricity that is exported back to the electric grid generates a retail credit within a homeowner’s monthly billing period. At the end of the monthly billing period, if the homeowner has generated excess electricity within that month, the homeowner typically carries forward a credit for any excess electricity to be offset against future utility energy purchases. At the end of an annual billing period or calendar year, utilities either continue to carry forward a credit, or reconcile the homeowner’s final annual or calendar year bill using different rates (including zero credit) for the exported electricity.

Utilities, their trade associations, and fossil fuel interests in the country are currently challenging net metering policies, and seeking to eliminate them, cap them, or impose charges on homeowners that have net metering. For example, in October 2015 the Hawaii Public Utilities Commission (the "Hawaii Commission") issued an order that eliminates net metering for all new customers. All existing net metering customers and customers who submitted net metering applications before October 12, 2015 are grandfathered indefinitely under the old rules. Some interim programs created by the Hawaii Commission are grandfathered for customers who applied in a timely fashion. We continue to build and service these systems. These new interim programs are more complex, which decreases certainty in the economic value proposition we provide to homeowners and potentially slows down market growth.

In addition, in early 2016 we ceased new installations in Nevada in response to the elimination of net metering by the Public Utilities Commission of Nevada (“PUCN”). However, in September 2016, the PUCN issued an order grandfathering in customers under the prior net metering rules that had installed a solar energy system or had submitted a net metering application prior to December 31, 2015. Furthermore, in June 2017, the governor of Nevada signed legislation, AB 405, which restores net metering at a reduced credit and grandfathers new customers for 20 years at the net metering rate in effect at the time they apply for interconnection. As another example, in December 2016, the Arizona Corporation Commission ("ACC") issued a decision to eliminate net metering export rates for new solar customers. In May 2018, the governor of Connecticut signed legislation to end the state's existing net metering program upon the conclusion of the Residential Solar Incentive Program (currently expected in 2019) and replace it with two yet-to-be-determined rate structures. The Connecticut state legislature is now considering continuing the net metering program through the end of 2021.

Some states set limits on the total percentage of a utility's customers that can adopt net metering. For example, South Carolina has a net metering cap, and customers within Duke Energy Carolinas' territory are expected to reach their cap on March 15, 2019. If not increased or otherwise extended, the net metering cap is also expected to be reached in South Carolina Electric & Gas' territory in 2019. New Jersey currently has no net metering cap; however, it has a cap that triggers commission review of its net metering policy. These policies could be subject to change in the future, and other states we serve now or in the future may adopt net metering caps. If the net metering caps in these jurisdictions are reached without an extension of net metering policies, homeowners in the future will not have access to the economic value proposition net metering provides. Our ability to sell our solar service offerings may be adversely impacted by the failure to extend existing limits to net metering or the elimination of currently existing net metering policies. The failure to adopt a net metering policy where it currently is not in place would pose a barrier to entry in those states. Additionally, the imposition of charges that only or disproportionately impact homeowners that have solar systems, or the introduction of rate designs mentioned above, would adversely impact our business.

Electric utility statutes and regulations and changes to statutes or regulations may present technical, regulatory and economic barriers to the purchase and use of our solar service offerings that may significantly reduce demand for such offerings.

Federal, state and local government statutes and regulations concerning electricity heavily influence the market for our solar service offerings. These statutes and regulations relate to electricity pricing, net metering, incentives, taxation, competition with utilities, and the interconnection of homeowner-owned and third party-owned solar energy systems to the electrical grid. These statutes and regulations are constantly evolving. Governments, often acting through state utility or public service commissions, change and adopt different rates for residential customers on a regular basis and these changes can have a negative impact on our ability to deliver savings to homeowners.

Utilities, their trade associations, and fossil fuel interests in the country, each of which has significantly greater economic and political resources than the residential solar industry, are currently challenging solar-related policies to reduce the competitiveness of residential solar energy. Any adverse changes in solar-related policies could have a negative impact on our business and prospects.

We face competition from traditional energy companies as well as solar energy companies.

The solar energy industry is highly competitive and continually evolving as participants strive to distinguish themselves within their markets and compete with large utilities. We believe that our primary competitors are the established utilities that supply energy to homeowners by traditional means. We compete with these utilities primarily based on price, predictability of price, and the ease by which homeowners can switch to electricity generated by our solar service offerings. If we cannot offer compelling value to homeowners based on these factors, then our business and revenue will not grow. Utilities generally have substantially greater financial, technical, operational and other resources than we do. As a result of their greater size, these competitors may be able to devote more resources to the research, development, promotion and sale of their products or respond more quickly to evolving industry standards and changes in market conditions than we can. Furthermore, these competitors are able to devote substantially more resources and funding to regulatory and lobbying efforts.

Utilities could also offer other value-added products or services that could help them compete with us even if the cost of electricity they offer is higher than ours. In addition, a majority of utilities' sources of electricity are non-solar, which may allow utilities to sell electricity more cheaply than we can. Moreover, regulated utilities are increasingly seeking approval to "rate-base" their own residential solar and storage businesses. Rate-basing means that utilities would receive guaranteed rates of return for their solar and storage businesses. This is already commonplace for utility scale solar projects and commercial solar projects. While few utilities to date have received regulatory permission to rate-base residential solar or storage, our competitiveness would be significantly harmed should more utilities receive such permission because we do not receive guaranteed profits for our solar service offerings.

We face competition from other residential solar service providers. Some of these competitors have a higher degree of brand name recognition, differing business and pricing strategies, and greater capital resources than we have, as well as extensive knowledge of our target markets. If we are unable to establish or maintain a consumer brand that resonates with homeowners, or competes with the pricing offered by our competitors, our sales and market share position may be adversely affected, as our growth is dependent on originating new homeowners. We may also face competitive pressure from companies who offer lower priced consumer offerings than we do.

We compete with companies that are not regulated like traditional utilities but that have access to the traditional utility electricity transmission and distribution infrastructure. These energy service companies are able to offer homeowners electricity supply-only solutions that are competitive with our solar service offerings on both price and usage of solar energy technology while avoiding the long-term agreements and physical installations that our current fund-financed business model requires. This may limit our ability to attract homeowners, particularly those who wish to avoid long-term contracts or have an aesthetic or other objection to putting solar panels on their roofs.

We face competition from purely finance-driven nonintegrated competitors that subcontract out the installation of solar energy systems, from installation businesses (including solar partners) that seek financing from external parties, from large construction companies and from electrical and roofing companies. In addition, local installers that might otherwise be viewed as potential solar partners may gain market share by being able to be the first providers in new local markets. Some of these competitors may provide energy at lower costs than we do. Finally, as declining prices for solar panels and related equipment has resulted in an increase in consumers purchasing instead of leasing solar energy systems, we face competition from companies that offer consumer loans for these solar panel purchases.

As the solar industry grows and evolves, we will continue to face existing competitors as well as new competitors who are not currently in the market (including those resulting from the consolidation of existing competitors) that achieve significant developments in alternative technologies or new products such as storage solutions, loan products or other programs related to third-party ownership. Our failure to adapt to changing market conditions, to compete successfully with existing or new competitors and to adopt new or enhanced technologies could limit our growth and have a material adverse effect on our business and prospects.

Regulations and policies related to rate design could deter potential homeowners from purchasing our solar service offerings, reduce the value of the electricity our systems produce, and reduce any savings that our homeowners could realize from our solar service offerings.

All states regulate investor-owned utility retail electricity pricing. In addition, there are numerous publicly owned utilities and electric cooperatives that establish their own retail electricity pricing through some form of regulation or internal process. These regulations and policies could deter potential homeowners from purchasing our solar service offerings. For example, some utilities in states such as Arizona and Utah have sought and secured rate design changes that reduce credit for residential solar exports to below the retail rate and impose new charges for rooftop solar customers. Utilities in additional states may follow suit. Such rate changes can include changing rates to charge lower volume-based rates - the rates charged for kilowatt hours of electricity purchased by a residential customer -- raising unavoidable fixed charges that a homeowner is subject to when they purchase solar energy from third parties, and levying charges on homeowners based on their point of maximum demand during a month (referred to as “demand charge”). For example, Arizona Public Service Company offers residential demand charge rate plans and if our solar customers have subscribed to those plans, they may not realize typical savings. These forms of rate design would adversely impact our business by reducing the value of the electricity our solar energy systems produce and reducing any savings homeowners realize by purchasing our solar service offerings. These proposals could continue or be replicated in other states. In addition to changes in general rates charged to all residential customers, utilities are increasingly seeking solar-specific charges (which may be fixed charges, capacity-based charges, or other rate charges). Any of these changes could materially reduce the demand for our offerings and could limit the number of markets in which our offerings are competitive with electricity provided by the utilities.

Our business currently depends on the availability of utility rebates, tax credits, tax exemptions and other financial incentives in addition to other tax benefits. The expiration, elimination or reduction of these rebates and incentives could adversely impact our business.

Our business depends on government policies that promote and support solar energy and enhance the economic viability of owning solar energy systems. U.S. federal, state and local governmental bodies provide incentives to owners, distributors, installers and manufacturers of solar energy systems to promote solar energy. These incentives include ITCs, as discussed above, as well as other tax credits, rebates and SRECs associated with solar energy generation. Some markets, such as New Jersey and Massachusetts, currently utilize SRECs. SRECs can be volatile and could decrease over time as the supply of SREC-producing solar energy systems installed in a particular market increases. For example, in New Jersey, because of the substantial supply of solar energy systems installed, the state was on the cusp of reaching the solar carve-out under the state's Renewable Portfolio Standard. In May 2018, the governor of New Jersey signed legislation to expand New Jersey's solar carve-out to 5.1% of kilowatt hours of electricity sold in the state through 2021. We rely on these incentives to lower our cost of capital and to attract investors, all of which enable us to lower the price we charge homeowners for our solar service offerings. These incentives have had a significant impact on the development of solar energy but they could change at any time, especially in light of the recent change in administration, as further described below. These incentives may also expire on a particular date (as discussed above with respect to the ITC), end when the allocated funding is exhausted, or be reduced, terminated or repealed without notice. The financial value of certain incentives may also decrease over time.

After the Tax Act's enactment in December 2017, the corporate tax rate was reduced to 21%, and limits interest deductibility and allows full and immediate expensing of capital costs. A reduction in the corporate tax rate and the expensing of capital costs could diminish the capacity of potential fund investors to benefit from tax incentives, and could require additional cash to be distributed to such fund investors in lieu of tax benefits. Furthermore, the current administration has made public statements regarding overturning or modifying policies of, or regulations enacted by, the prior administration that placed limitations on coal and gas electric generation, mining and/or exploration. Any effort to overturn federal and state laws, regulations or policies that are supportive of solar energy generation or that remove costs or other limitations on other types of energy generation that compete with solar energy projects could materially and adversely affect our business.

Our business model also relies on multiple tax exemptions offered at the state and local levels. For example, solar energy systems are generally not considered in determining values for calculation of local and state real and personal property taxes as a result of applicable property tax exemptions. State and local tax exemptions can be changed by state legislatures and other regulators, and if solar energy systems were not exempt from such taxes, the property taxes payable by homeowners would be higher, which could offset any potential savings our solar service offerings could offer. Similarly, if state or local legislatures impose property taxes on third-party owners of solar systems, solar companies like us would be subject to higher costs. For example, the Arizona Department of Revenue and Arizona counties have subjected our leased solar panels to personal property taxes in that state. While we are challenging that determination, an adverse outcome will subject us and other solar companies to an increase in personal property taxes. If we pass this additional tax on to our customers in the form of higher prices, it could reduce or eliminate entirely any savings that these solar panels might otherwise provide to the homeowner. We are involved in ongoing litigation challenging the Arizona personal property tax determination. There can be no assurances that this litigation will be resolved in a manner that is favorable to us or other solar companies. We are also pursuing legislation that could drastically reduce our tax liability. If this litigation is not resolved in a manner that is favorable to us and other solar companies, or the legislation is not enacted, the tax will adversely impact our operations in Arizona. If we decide to pass the tax cost on to our customers, such price increase could adversely impact our ability to attract new customers in Arizona, and any savings that our current Arizona customers realize could be reduced or eliminated by the additional tax imposed, which will make our solar service offerings less attractive to those customers and could increase the risk of default from those customers. In addition, South Carolina counties do not currently assess property tax on customer-owned residential solar energy systems; however, third-party-owned systems are subject to business personal property taxes. In Connecticut, a number of municipalities have assessed property tax on third-party owned solar energy systems, despite an applicable exemption under state law. Legislation is currently being considered to clarify that the exemption applies to third party-owned systems. In general, we rely on certain state and local tax exemptions that apply to the sale of equipment, sale of power, or both. These state and local tax exemptions can be changed by the state legislature and other regulators and such a change could adversely impact our business.

We are not currently regulated as a utility under applicable laws, but we may be subject to regulation as a utility in the future or become subject to new federal and state regulations for any additional solar service offerings we may introduce in the future.

Most federal, state, and municipal laws do not currently regulate us as a utility . As a result, we are not subject to the various regulatory requirements applicable to U.S. utilities. However, any federal, state, local or other applicable regulations could place significant restrictions on our ability to operate our business and execute our business plan by prohibiting or otherwise restricting our sale of electricity. These regulatory requirements could include restricting our sale of electricity, as well as regulating the price of our solar service offerings. For example, the New York Public Service Commission recently issued an order regulating distributed energy providers as if they were energy service companies, which increases the regulatory compliance burden for us in that state. If we become subject to the same regulatory authorities as utilities in other states or if new regulatory bodies are established to oversee our business, then our operating costs could materially increase.

Our business depends in part on the regulatory treatment of third-party owned solar energy systems.

Our Customer Agreements are third-party ownership arrangements. Sales of electricity by third parties face regulatory challenges in some states and jurisdictions. These challenges pertain to issues such as whether third party-owned systems qualify for the same rebates, tax exemptions or other non-tax incentives available for homeowner-owned solar energy systems, whether third-party-owned systems are eligible at all for these incentives, and whether third-party-owned systems are eligible for net metering and the associated significant cost savings. Adverse regulatory treatment of third-party ownership arrangements could reduce demand for our solar service offerings, adversely impact our access to capital and cause us to increase the price we charge homeowners for energy.

Interconnection limits or circuit-level caps imposed by regulators may significantly reduce our ability to sell electricity from our solar service offerings in certain markets or slow interconnections, harming our growth rate and customer satisfaction scores.

Interconnection rules establish the circumstances in which rooftop solar will be connected to the electricity grid. Interconnection limits or circuit-level caps imposed by regulators may curb our growth in key markets. Utilities throughout the country have different rules and regulations regarding interconnection and some utilities cap or limit the amount of solar energy that can be interconnected to the grid. Our systems do not provide power to homeowners until they are interconnected to the grid.

Interconnection regulations are based on claims from utilities regarding the amount of solar electricity that can be connected to the grid without causing grid reliability issues or requiring significant grid upgrades. Although recent rulings from the Hawaii Utilities Commission have helped resolve some problems, historically, interconnection limits or circuit-level caps have slowed the pace of our installations in Hawaii. Similar interconnection limits could slow our future installations in Hawaii or other markets, harming our growth rate and customer satisfaction scores. Similarly, the California and Hawaii Public Utilities Commissions recently required the activation of some advanced inverter functionality to head off presumed grid reliability issues, which may require more expensive equipment and more oversight of the operation of the solar systems over time.

We may be required to make payments or contribute assets to our investors upon the occurrence of certain events, including one-time reset or true-up payments or upon the exercise of a redemption option by one of our investors.

Our fund investors typically advance capital to us based on production capacity estimates. The models we use to calculate prepayments in connection with certain of our investment funds will be updated for each investment fund at a fixed date occurring after placement in service of all applicable solar energy systems or an agreed upon date (typically within the first year of the applicable term) to reflect certain specified conditions as they exist at such date including the ultimate system size of the equipment that was leased, how much it cost, and when it went into service. In some cases, these true-up models will also incorporate any changes in law, which would include any reduction in rates (and thus any reduction in the benefits of depreciation). As a result of this true-up, applicable payments are resized, and we may be obligated to refund a portion of the investor's prepayments or to contribute additional assets to the investment fund. In addition, certain of our fund investors have the right to require us to purchase their interests in the investment funds after a set period of time, generally at a price equal to the greater of a set purchase price or fair market value of the interests at the time of the repurchase. Any significant refunds, capital contributions or purchases that we may be required to make could adversely affect our liquidity or financial condition.

A material drop in the retail price of utility-generated electricity or electricity from other sources would harm our business, financial condition and results of operations.

We believe that a homeowner's decision to buy solar energy from us is primarily driven by a desire to lower electricity costs. Decreases in the retail prices of electricity from utilities or other energy sources would harm our ability to offer competitive pricing and could harm our business. The price of electricity from utilities could decrease as a result of:

- the construction of a significant number of new power generation plants, including nuclear, coal, natural gas or renewable energy technologies;
- the construction of additional electric transmission and distribution lines;
- a reduction in the price of natural gas or other natural resources as a result of new drilling techniques or other technological developments, a relaxation of associated regulatory standards, or broader economic or policy developments;
- energy conservation technologies and public initiatives to reduce electricity consumption; and
- development of new energy technologies that provide less expensive energy.

A reduction in utility electricity prices would make the purchase of our solar service offerings less attractive. If the retail price of energy available from utilities were to decrease due to any of these or other reasons, we would be at a competitive disadvantage. As a result, we may be unable to attract new homeowners and our growth would be limited.

It is difficult to evaluate our business and prospects due to our limited operating history .

Our limited operating history, particularly as a publicly traded company, combined with the rapidly evolving and competitive nature of our industry, may not provide an adequate basis for you to evaluate our results of operations and business prospects. We cannot assure you that we will continue to be successful in generating revenue from our current solar service offerings or from any additional solar service offerings we may introduce in the future. In addition, we only have limited insight into emerging trends, such as alternative energy sources, commodity prices in the overall energy market, and legal and regulatory changes that impact the solar industry, any of which could adversely impact our business, prospects and results of operations.

We have incurred losses and may be unable to sustain profitability in the future.

We have incurred net losses in the past and may continue to incur net losses as we increase our spending to finance the expansion of our operations, expand our installation, engineering, administrative, sales and marketing staffs, increase spending on our brand awareness and other sales and marketing initiatives, and implement internal systems and infrastructure to support our growth. We do not know whether our revenue will grow rapidly enough to absorb these costs and our limited operating history makes it difficult to assess the extent of these expenses or their impact on our results of operations. Our ability to sustain profitability depends on a number of factors, including but not limited to:

- growing our customer base;

- finding investors willing to invest in our investment funds on favorable terms;
- maintaining or further lowering our cost of capital;
- reducing the cost of components for our solar service offerings;
- growing and maintaining our channel partner network;
- growing our direct-to-consumer business to scale; and
- reducing our operating costs by lowering our customer acquisition costs and optimizing our design and installation processes and supply chain logistics.

Even if we do sustain profitability, we may be unable to achieve positive cash flows from operations in the future.

Our results of operations may fluctuate from quarter to quarter, which could make our future performance difficult to predict and could cause our results of operations for a particular period to fall below expectations, resulting in a decline in the price of our common stock.

Our quarterly results of operations are difficult to predict and may fluctuate significantly in the future. We have experienced seasonal and quarterly fluctuations in the past and expect these fluctuations to continue. However, given that we are operating in a rapidly changing industry, those fluctuations may be masked by our recent growth rates and thus may not be readily apparent from our historical results of operations. As such, our past quarterly results of operations may not be good indicators of likely future performance.

In addition to the other risks described in this “Risk Factors” section, as well as the factors discussed in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section, the following factors could cause our results of operations and key performance indicators to fluctuate:

- the expiration, reduction or initiation of any governmental tax rebates, tax exemptions or incentives;
- significant fluctuations in homeowner demand for our solar service offerings or fluctuations in the geographic concentration of installations of solar energy systems;
- changes in financial markets, which could restrict our ability to access available and cost-effective financing sources;
- seasonal, environmental or weather conditions that impact sales, energy production and system installations;
- the amount and timing of operating expenses related to the maintenance and expansion of our business, operations and infrastructure;
- announcements by us or our competitors of new products or services, significant acquisitions, strategic partnerships, joint ventures or capital-raising activities or commitments;
- changes in our pricing policies or terms or those of our competitors, including utilities;
- changes in regulatory policy related to solar energy generation;
- the loss of one or more key partners or the failure of key partners to perform as anticipated;

- actual or anticipated developments in our competitors' businesses or the competitive landscape;
- actual or anticipated changes in our growth rate;
- general economic, industry and market conditions; and
- changes to our cancellation rate.

In the past, we have experienced seasonal fluctuations in sales and installations, particularly in the fourth quarter . This has been the result of decreased sales through the holiday season and weather-related installation delays. Our incentives revenue is also highly variable due to associated revenue recognition rules, as discussed in greater detail in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations." Seasonal and other factors may also contribute to variability in our sales of solar energy systems and product sales. For these or other reasons, the results of any prior quarterly or annual periods should not be relied upon as indications of our future performance. In addition, our actual revenue or key operating metrics in one or more future quarters may fall short of the expectations of investors and financial analysts. If that occurs, the trading price of our common stock could decline and you could lose part or all of your investment.

Our actual financial results may differ materially from any guidance we may publish from time to time.

We have in the past and may, from time to time, provide guidance regarding our future performance that represents our management's estimates as of the date such guidance is provided. Any such guidance is based upon a number of assumptions with respect to future business decisions (some of which may change) and estimates that, while presented with numerical specificity, are inherently subject to significant business, economic and competitive uncertainties and contingencies (many of which are beyond our control). Guidance is necessarily speculative in nature, and it can be expected that some or all of the assumptions that inform such guidance will not materialize or will vary significantly from actual results. Our ability to meet deployment volume, cost, net present value or any other forward-looking guidance is impacted by a number of factors including, but not limited to, the number of our solar energy systems sold versus leased, changes in installation costs, the availability of additional financing on acceptable terms, changes in the retail prices of traditional utility generated electricity, the availability of rebates, tax credits and other incentives, changes in policies and regulations including net metering and interconnection limits or caps, the availability of solar panels and other raw materials, as well as the other risks to our business that are described in this section. Accordingly, our guidance is only an estimate of what management believes is realizable as of the date such guidance is provided. Actual results may vary from such guidance and the variations may be material. Investors should also recognize that the reliability of any forecasted financial data diminishes the farther in the future that the data is forecast. In light of the foregoing, investors should not place undue reliance on our financial guidance, and should carefully consider any guidance we may publish in context.

If we fail to manage our recent and future growth effectively, we may be unable to execute our business plan, maintain high levels of customer service or adequately address competitive challenges.

We have experienced significant growth in recent periods, and we intend to continue to expand our business within existing markets and in a number of new locations in the future. This growth has placed, and any future growth may place, a significant strain on our management, operational and financial infrastructure. In particular, we will be required to expand, train and manage our growing employee base and solar partners. Our management will also be required to maintain and expand our relationships with homeowners, suppliers and other third parties and attract new homeowners and suppliers, as well as to manage multiple geographic locations.

In addition, our current and planned operations, personnel, systems and procedures might be inadequate to support our future growth and may require us to make additional unanticipated investment in our infrastructure, including additional costs for the expansion of our employee base and our solar partners as well as marketing and branding costs. Our success and ability to further scale our business will depend, in part, on our ability to manage these changes in a cost-effective and efficient manner. If we cannot manage our growth, we may be unable to take advantage of market opportunities, execute our business strategies or respond to competitive pressures. This could also result in declines in quality or homeowner satisfaction, increased costs, difficulties in introducing new solar service offerings or other operational difficulties. Any failure to effectively manage growth could adversely impact our business and reputation.

Servicing our debt requires a significant amount of cash to comply with certain covenants and satisfy payment obligations, and we may not have sufficient cash flow from our business to pay our substantial debt and may be forced to take other actions to satisfy our obligations under our indebtedness, which may not be successful.

We have substantial amounts of debt, including the working capital facility and the non-recourse debt facilities entered into by our subsidiaries, as discussed in more detail in the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements. Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debt and make necessary capital expenditures to operate our business. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to timely repay or otherwise refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

We expect to incur substantially more debt in the future, which could intensify the risks to our business.

We and our subsidiaries expect to incur additional debt in the future, subject to the restrictions contained in our debt instruments. Our existing debt arrangements restrict our ability to incur additional indebtedness, including secured indebtedness, and we may be subject to similar restrictions under the terms of future debt arrangements. These restrictions could inhibit our ability to pursue our business strategies. Increases in our existing debt obligations would further heighten the debt related risk discussed above.

Furthermore, there is no assurance that we will be able to enter into new debt instruments on acceptable terms or at all. If we were unable to satisfy financial covenants and other terms under existing or new instruments, or obtain waivers or forbearance from our lenders, or if we were unable to obtain refinancing or new financings for our working capital, equipment and other needs on acceptable terms if and when needed, our business would be adversely affected.

The production and installation of solar energy systems depends heavily on suitable meteorological and environmental conditions. If meteorological or environmental conditions are unexpectedly unfavorable, the electricity production from our solar service offerings may be below our expectations, and our ability to timely deploy new systems may be adversely impacted.

The energy produced and revenue and cash flows generated by a solar energy system depend on suitable solar and weather conditions, both of which are beyond our control. Furthermore, components of our systems, such as panels and inverters, could be damaged by severe weather or natural catastrophes, such as hailstorms, tornadoes, fires or earthquakes. In these circumstances, we generally would be obligated to bear the expense of repairing the damaged solar energy systems that we own. Sustained unfavorable weather or environmental conditions also could unexpectedly delay the installation of our solar energy systems, leading to increased expenses and decreased revenue and cash flows in the relevant periods. Extreme weather conditions, as well as the natural catastrophes that could result from such conditions, can severely impact our operations by delaying the installation of our systems, lowering sales, and causing a decrease in the output from our systems due to smoke or haze. Weather patterns could change, making it harder to predict the average annual amount of sunlight striking each location where our solar energy systems are installed. This could make our solar service offerings less economical overall or make individual systems less economical. Any of these events or conditions could harm our business, financial condition and results of operations.

Our business is concentrated in certain markets, putting us at risk of region specific disruptions.

As of March 31, 2019, more than 40% of our customers were in California. Accordingly, our business and results of operations are particularly susceptible to adverse economic, regulatory, political, weather and other conditions in this market and in other markets that may become similarly concentrated, in particular the east coast, where we have seen significant growth recently. In addition, our corporate and sales headquarters are located in San Francisco, California, an area that has a heightened risk of earthquakes and nearby wildfires. We may not have adequate insurance, including business interruption insurance, to compensate us for losses that may occur from any such significant events, including damage to our solar energy systems. A significant natural disaster, such as an earthquake or wildfire, could have a material adverse impact on our business, results of operations and financial condition. In addition, acts of terrorism or malicious computer viruses could cause disruptions in our or our solar partners' businesses or the economy as a whole. To the extent that these disruptions result in delays or cancellations of installations or the deployment of our solar service offerings, our business, results of operations and financial condition would be adversely affected.

Loan financing developments could adversely impact our business.

The third-party ownership structure, which we bring to market through our solar service offerings, continues to be the predominant form of system ownership in the residential solar market in many states. However, with the development of new loan financing products, we have seen a modest shift from leasing to outright purchases of the solar energy system by the homeowner (i.e., a homeowner purchases the solar energy system outright instead of leasing the system from us). Continued increases in third-party loan financing products and outright purchases could result in the demand for long-term Customer Agreements to decline, which would require us to shift our product focus to respond to the market trend and could have an adverse effect on our business. In 2018, 2017 and 2016, the majority of our customers chose our solar service offerings as opposed to buying a solar energy system outright. Our financial model is impacted by the volume of homeowners who choose our solar service offerings, and an increase in the number of customers who choose to purchase solar energy systems (whether for cash or through third-party financing) may harm our business and financial results.

The federal government currently offers a 30% Residential ITC for the installation of certain solar power facilities owned by residential taxpayers. The Residential ITC is expected to ramp down from 30% to 26% for solar property commencing construction in 2020 and then further to 22% for solar property commencing construction in 2021. The Residential ITC is set to expire after 2021, while the Commercial ITC will step down to 10% for both (i) solar property commencing construction after 2021 and (ii) solar property that commenced construction during or prior to 2021 but is placed in service after 2023. Reductions in, eliminations of, or expirations of, governmental incentives such as the Residential ITC could reduce the number of customers who choose to purchase our solar energy systems.

Our growth depends in part on the success of our relationships with third parties, including our solar partners.

A key component of our growth strategy is to develop or expand our relationships with third parties. For example, we are investing resources in establishing strategic relationships with market players across a variety of industries, including large retailers, to generate new customers. These programs may not roll out as quickly as planned or produce the results we anticipated. A significant portion of our business depends on attracting and retaining new and existing solar partners. Negotiating relationships with our solar partners, investing in due diligence efforts with potential solar partners, training such third parties and contractors, and monitoring them for compliance with our standards require significant time and resources and may present greater risks and challenges than expanding a direct sales or installation team. If we are unsuccessful in establishing or maintaining our relationships with these third parties, our ability to grow our business and address our market opportunity could be impaired. Even if we are able to establish and maintain these relationships, we may not be able to execute on our goal of leveraging these relationships to meaningfully expand our business, brand recognition and customer base. This would limit our growth potential and our opportunities to generate significant additional revenue or cash flows.

We and our solar partners depend on a limited number of suppliers of solar panels and other system components to adequately meet anticipated demand for our solar service offerings. Any shortage, delay or component price change from these suppliers, or the acquisition of any of these suppliers by a competitor, could result in sales and installation delays, cancellations and loss of market share.

We and our solar partners purchase solar panels, inverters and other system components and batteries from a limited number of suppliers, making us susceptible to quality issues, shortages and price changes. If we or our solar partners fail to develop, maintain and expand our relationships with these or other suppliers, we may be unable to adequately meet anticipated demand for our solar service offerings, or we may only be able to offer our systems at higher costs or after delays. If one or more of the suppliers that we or our solar partners rely upon to meet anticipated demand ceases or reduces production, we may be unable to quickly identify alternate suppliers or to qualify alternative products on commercially reasonable terms, and we may be unable to satisfy this demand.

The acquisition of a supplier by one of our competitors could limit our access to such components and require significant redesigns of our solar energy systems or installation procedures and have a material adverse effect on our business.

In particular, there are a limited number of suppliers of inverters, which are components that convert electricity generated by solar panels into electricity that can be used to power the home. For example, once we design a system for use with a particular inverter, if that type of inverter is not readily available at an anticipated price, we may incur delays and additional expenses to redesign the system. Further, the inverters on our solar energy systems generally carry only ten year warranties. If there is an inverter equipment shortage in a year when a substantial number of inverters on our systems need to be replaced, we may not be able to replace the inverters to maintain proper system functioning or may be forced to do so at higher than anticipated prices, either of which would adversely impact our business.

There have also been periods of industry-wide shortage of key components, including solar panels, in times of rapid industry growth or regulatory change. For example, guidance from the IRS on what must be done on future projects for construction to have commenced in time to qualify for federal investment tax credits has recently resulted in significant module shortages in the market as utilities and large commercial customers start purchasing supplies in advance of the December 2019 deadline to qualify for a 30% investment tax credit. Further, new or unexpected changes in rooftop fire codes or building codes may require new or different system components to satisfy compliance with such newly effective codes or regulations, which may not be readily available for distribution to us or our suppliers. The manufacturing infrastructure for some of these components has a long lead time, requires significant capital investment and relies on the continued availability of key commodity materials, potentially resulting in an inability to meet demand for these components and, as a result, could negatively impact our ability to install systems in a timely manner. Additionally, any decline in the exchange rate of the U.S. dollar compared to the functional currency of our component suppliers could increase our component prices. Any of these shortages, delays or price changes could limit our growth, cause cancellations or adversely affect our operating margins, and result in loss of market share and damage to our brand.

As the primary entity that contracts with homeowners, we are subject to risks associated with construction, cost overruns, delays, customer cancellations, regulatory compliance and other contingencies, any of which could have a material adverse effect on our business and results of operations.

We are a licensed contractor in certain communities that we service, and we are ultimately responsible as the contracting party for every solar energy system installation. We may be liable, either directly or through our solar partners, to homeowners for any damage we cause to them, their home, belongings or property during the installation of our systems. For example, we, either directly or through our solar partners, frequently penetrate homeowners’ roofs during the installation process and may incur liability for the failure to adequately weatherproof such penetrations following the completion of construction. In addition, because the solar energy systems we or our solar partners deploy are high voltage energy systems, we may incur liability for any failure to comply with electrical standards and manufacturer recommendations.

Completing the sale and installation of a solar energy system requires many different steps including a site audit, completion of designs, permitting, installation, electrical sign-off and interconnection. Homeowners may cancel their Customer Agreement, subject to certain conditions, during this process until commencement of installation, and we have experienced increased customer cancellations in certain geographic markets during certain periods in our operating history. We or our solar partners may face customer cancellations, delays or cost overruns which may adversely affect our or our solar partners' ability to ramp up the volume of sales or installations in accordance with our plans. These cancellations, delays or overruns may be the result of a variety of factors, such as labor shortages or other labor issues, defects in materials and workmanship, adverse weather conditions, transportation constraints, construction change orders, site changes or roof conditions, geographic factors and other unforeseen difficulties, any of which could lead to increased cancellation rates, reputational harm and other adverse effects. For example, some customer orders are cancelled after a site visit if we determine that a customer needs to make repairs to or install a new roof, or that there is excessive shading on their property. If we continue to experience increased customer cancellations, our financial results will potentially be materially and adversely affected.

In addition, the installation of solar energy systems, energy-storage systems and other energy-related products requiring building modifications are subject to oversight and regulation in accordance with national, state and local laws and ordinances relating to building, fire and electrical codes, safety, environmental protection, utility interconnection and metering, and related matters. We also rely on certain of our and our partners' employees to maintain professional licenses in many of the jurisdictions in which we operate, and our failure to employ properly licensed personnel could adversely affect our licensing status in those jurisdictions. It is difficult and costly to track the requirements of every individual authority having jurisdiction over our installations and to design solar energy systems to comply with these varying standards. Any new government regulations or utility policies pertaining to our systems may result in significant additional expenses to us and our homeowners and, as a result, could cause a significant reduction in demand for our solar service offerings.

While we have a variety of stringent quality standards that we apply in the selection of our solar partners, we do not control our suppliers and solar partners or their business practices. Accordingly, we cannot guarantee that they follow our standards or ethical business practices, such as fair wage practices and compliance with environmental, safety and other local laws. A lack of demonstrated compliance could lead us to seek alternative suppliers or contractors, which could increase our costs and result in delayed delivery or installation of our products, product shortages or other disruptions of our operations. Violation of labor or other laws by our suppliers and solar partners or the divergence of a supplier's or solar partner's labor or other practices from those generally accepted as ethical in the United States or other markets in which we do business could also attract negative publicity for us and harm our business, brand and reputation in the market.

We typically bear the risk of loss and the cost of maintenance, repair and removal on solar energy systems that are owned or leased by our investment funds.

We typically bear the risk of loss and are generally obligated to cover the cost of maintenance, repair and removal for any solar energy system that we sell or lease to our investment funds. At the time we sell or lease a solar energy system to an investment fund, we enter into a maintenance services agreement where we agree to operate and maintain the system for a fixed fee that is calculated to cover our future expected maintenance costs. If our solar energy systems require an above-average amount of repairs or if the cost of repairing systems were higher than our estimate, we would need to perform such repairs without additional compensation. If our solar energy systems, more than 40% of which are located in California, are damaged as the result of a natural disaster beyond our control, losses could exceed or be excluded from, our insurance policy limits, and we could incur unforeseen costs that could harm our business and financial condition. We may also incur significant costs for taking other actions in preparation for, or in reaction to, such events. We purchase property insurance with industry standard coverage and limits approved by an investor's third-party insurance advisors to hedge against such risk, but such coverage may not cover our losses.

Disruptions to our solar production metering solution could negatively impact our revenues and increase our expenses.

Our ability to monitor solar energy production for various purposes depends on the operation of our metering solution. We could incur significant expense and disruption to our operations in connection with failures of our metering solution, including meter hardware failures and failure or obsolescence of the cellular technology that we use to communicate with those meters. For example, many of our meters operate on either the 2G or 3G cellular data networks, which are expected to sunset before the term of our Customer Agreements with homeowners, and newer technologies we use today may become obsolete before the end of the term of Customer Agreements entered into now. Upgrading our metering solution may cause us to incur significant expense. Additionally, our meters communicate data through proprietary software, which we license from our metering partners. Should we be unable to continue to license, on agreeable terms, the software necessary to communicate with our meters, it could cause a significant disruption in our business and operations.

Problems with product quality or performance may cause us to incur warranty expenses and performance guarantee expenses, may lower the residual value of our solar energy systems and may damage our market reputation and cause our financial results to decline.

Homeowners who enter into Customer Agreements with us are covered by production guarantees and roof penetration warranties. As the owners of the solar energy systems, we or our investment funds receive a warranty from the inverter and solar panel manufacturers, and, for those solar energy systems that we do not install directly, we receive workmanship and material warranties as well as roof penetration warranties from our solar partners. For example, in 2015 and 2014, we had to replace a significant number of defective inverters, the cost of which was borne by the manufacturer. However, our customers were without solar service for a period of time while the work was done, which impacted customer satisfaction. Furthermore, one or more of our third-party manufacturers or solar partners could cease operations and no longer honor these warranties, leaving us to fulfill these potential obligations to homeowners. Further, we provide a performance guarantee with certain solar service offerings pursuant to which we compensate homeowners on an annual basis if their system does not meet the electricity production guarantees set forth in their agreement with us. Homeowners who enter into Customer Agreements with us are covered by production guarantees equal to the length of the term of these agreements, typically 20 or 25 years.

Because of our limited operating history, we have been required to make assumptions and apply judgments regarding a number of factors, including our anticipated rate of warranty claims and the durability, performance and reliability of our solar energy systems. Our assumptions could prove to be materially different from the actual performance of our systems, causing us to incur substantial expense to repair or replace defective solar energy systems in the future or to compensate homeowners for systems that do not meet their production guarantees. Product failures or operational deficiencies also would reduce our revenue from power purchase or lease agreements because they are dependent on system production. Any widespread product failures or operating deficiencies may damage our market reputation and adversely impact our financial results.

Product liability claims against us could result in adverse publicity and potentially significant monetary damages.

If our solar service offerings, including our racking systems or other products, injured someone, we would be exposed to product liability claims. Because solar energy systems and many of our other current and anticipated products are electricity-producing devices, it is possible that consumers or their property could be injured or damaged by our products, whether by product malfunctions, defects, improper installation or other causes. We rely on third-party manufacturing warranties, warranties provided by our solar partners and our general liability insurance to cover product liability claims and have not obtained separate product liability insurance. Any product liability claim we face could be expensive to defend and divert management's attention. The successful assertion of product liability claims against us could result in potentially significant monetary damages that could require us to make significant payments, as well as subject us to adverse publicity, damage our reputation and competitive position and adversely affect sales of our systems and other products. In addition, product liability claims, injuries, defects or other problems experienced by other companies in the residential solar industry could lead to unfavorable market conditions to the industry as a whole, and may have an adverse effect on our ability to attract homeowners, thus affecting our growth and financial performance.

The value of our solar energy systems at the end of the associated term of the lease or power purchase agreement may be lower than projected, which may adversely affect our financial performance and valuation.

We depreciate the costs of our solar energy systems over their estimated useful life of 35 years. At the end of the initial term of the Customer Agreement, customers may choose to purchase their solar energy systems, ask to remove the system at our cost or renew their Customer Agreements. Homeowners may choose to not renew or purchase for any reason, such as pricing, decreased energy consumption, relocation of residence or switching to a competitor product.

Furthermore, it is difficult to predict how future environmental regulations may affect the costs associated with the removal, disposal or recycling of our solar energy systems. If the value in trade or renewal revenue is less than we expect, we may be required to recognize all or some of the remaining unamortized costs. This could materially impair our future results of operations.

Damage to our brand and reputation or failure to expand our brand would harm our business and results of operations.

We depend significantly on our brand and reputation for high-quality solar service offerings, engineering and customer service to attract homeowners and grow our business. If we fail to continue to deliver our solar service offerings within the planned timelines, if our solar service offerings do not perform as anticipated or if we damage any homeowners' properties or cancel projects, our brand and reputation could be significantly impaired. We also depend greatly on referrals from homeowners for our growth. Therefore, our inability to meet or exceed homeowners' expectations would harm our reputation and growth through referrals. We have at times focused particular attention on expeditiously growing our direct sales force and our solar partners, leading us in some instances to hire personnel or partner with third parties who we may later determine do not fit our company culture and standards. Given the sheer volume of interactions our direct sales force and our solar partners have with customers and potential customers, it is also unavoidable that some interactions will be perceived by customers and potential customers as less than satisfactory and result in complaints. If we cannot manage our hiring and training processes to limit potential issues and maintain appropriate customer service levels, our brand and reputation may be harmed and our ability to grow our business would suffer. In addition, if we were unable to achieve a similar level of brand recognition as our competitors, some of which currently have a broader brand footprint as a result of a larger direct sales force, more resources and longer operational history, we could lose recognition in the marketplace among prospective customers, suppliers and partners, which could affect our growth and financial performance. Our growth strategy involves marketing and branding initiatives that will involve incurring significant expenses in advance of corresponding revenues. We cannot assure you that such marketing and branding expenses will result in the successful expansion of our brand recognition or increase our revenues.

A failure to hire and retain a sufficient number of employees and service providers in key functions would constrain our growth and our ability to timely complete homeowners' projects and successfully manage homeowner accounts.

To support our growth, we need to hire, train, deploy, manage and retain a substantial number of skilled employees, engineers, installers, electricians, sales and project finance specialists. Competition for qualified personnel in our industry is increasing, particularly for skilled personnel involved in the installation of solar energy systems. We may be unable to attract or retain qualified and skilled installation personnel or installation companies to be our solar partners, which would have an adverse effect on our business. We and our solar partners also compete with the homebuilding and construction industries for skilled labor. As these industries grow and seek to hire additional workers, our cost of labor may increase. The unionization of the industry's labor force could also increase our labor costs. Shortages of skilled labor could significantly delay a project or otherwise increase our costs. Because our profit on a particular installation is based in part on assumptions as to the cost of such project, cost overruns, delays or other execution issues may cause us to not achieve our expected margins or cover our costs for that project. In addition, because we are headquartered in the San Francisco Bay Area, we compete for a limited pool of technical and engineering resources that requires us to pay wages that are competitive with relatively high regional standards for employees in these fields. Further, we need to continue to expand upon the training of our customer service team to provide high-end account management and service to homeowners before, during and following the point of installation of our solar energy systems. Identifying and recruiting qualified personnel and training them requires significant time, expense and attention. It can take several months before a new customer service team member is fully trained and productive at the standards that we have established. If we are unable to hire, develop and retain talented customer service personnel, we may not be able to realize the expected benefits of this investment or grow our business.

In addition, to support the growth and success of our direct-to-consumer channel, we need to recruit, retain and motivate a large number of sales personnel on a continuing basis. We compete with many other companies for qualified sales personnel, and it could take many months before a new salesperson is fully trained on our solar service offerings. If we are unable to hire, develop and retain qualified sales personnel or if they are unable to achieve desired productivity levels, we may not be able to compete effectively.

If we or our solar partners cannot meet our hiring, retention and efficiency goals, we may be unable to complete homeowners' projects on time or manage homeowner accounts in an acceptable manner or at all. Any significant failures in this regard would materially impair our growth, reputation, business and financial results. If we are required to pay higher compensation than we anticipate, these greater expenses may also adversely impact our financial results and the growth of our business.

The loss of one or more members of our senior management or key employees may adversely affect our ability to implement our strategy.

We depend on our experienced management team, and the loss of one or more key executives could have a negative impact on our business. In particular, we are dependent on the services of our chief executive officer and co-founder, Lynn Jurich, and our Chairman and co-founder, Edward Fenster. We also depend on our ability to retain and motivate key employees and attract qualified new employees. Neither our founders nor our key employees are bound by employment agreements for any specific term, and we may be unable to replace key members of our management team and key employees in the event we lose their services. Integrating new employees into our management team could prove disruptive to our operations, require substantial resources and management attention and ultimately prove unsuccessful. An inability to attract and retain sufficient managerial personnel who have critical industry experience and relationships could limit or delay our strategic efforts, which could have a material adverse effect on our business, financial condition and results of operations.

We may not realize the anticipated benefits of past or future acquisitions, and integration of these acquisitions may disrupt our business and management.

We acquired MEC in February 2014 and Clean Energy Experts, LLC ("CEE") in April 2015. We may in the future acquire additional companies, project pipelines, products, or technologies or enter into joint ventures or other strategic initiatives. We may not realize the anticipated benefits of past or future acquisitions, and any acquisition has numerous risks that are not within our control. These risks include the following, among others:

- difficulty in assimilating the operations and personnel of the acquired company, especially given our unique culture;
- difficulty in effectively integrating the acquired technologies or products with our current products and technologies;
- difficulty in maintaining controls, procedures and policies during the transition and integration;
- disruption of our ongoing business and distraction of our management and employees from other opportunities and challenges due to integration issues;
- difficulty integrating the acquired company's accounting, management information and other administrative systems;

- inability to retain key technical and managerial personnel of the acquired business;
- inability to retain key customers, vendors and other business partners of the acquired business;
- inability to achieve the financial and strategic goals for the acquired and combined businesses;
- incurring acquisition-related costs or amortization costs for acquired intangible assets that could impact our results of operations;
- significant post-acquisition investments which may lower the actual benefits realized through the acquisition;
- potential failure of the due diligence processes to identify significant issues with product quality, legal and financial liabilities, among other things;
- potential inability to assert that internal controls over financial reporting are effective; and
- potential inability to obtain, or obtain in a timely manner, approvals from governmental authorities, which could delay or prevent such acquisitions.

Our failure to address these risks, or other problems encountered in connection with our past or future acquisitions, could cause us to fail to realize the anticipated benefits of these acquisitions or investments, cause us to incur unanticipated liabilities, and harm our business generally. Future acquisitions could also result in dilutive issuances of our equity securities, the incurrence of debt, contingent liabilities, amortization expenses, incremental expenses or the write-off of goodwill, any of which could harm our financial condition or results of operations.

Mergers and acquisitions of companies are inherently risky, may not produce the anticipated benefits and could adversely affect our business, financial condition or results of operations.

If we are unsuccessful in developing and maintaining our proprietary technology, including our BrightPath software, our ability to attract and retain solar partners could be impaired, our competitive position could be harmed and our revenue could be reduced.

Our future growth depends on our ability to continue to develop and maintain our proprietary technology that supports our solar service offerings, including our design and proposal software, BrightPath. In addition, we rely, and expect to continue to rely, on licensing agreements with certain third parties for aerial images that allow us to efficiently and effectively analyze a homeowner’s rooftop for solar energy system specifications. In the event that our current or future products require features that we have not developed or licensed, or we lose the benefit of an existing license, we will be required to develop or obtain such technology through purchase, license or other arrangements. If the required technology is not available on commercially reasonable terms, or at all, we may incur additional expenses in an effort to internally develop the required technology. In addition, our BrightPath software was developed, in part, with U.S. federal government funding. When new technologies are developed with U.S. government funding, the government obtains certain rights in any resulting patents, including a nonexclusive license authorizing the government to use the invention for non-commercial purposes. These rights may permit the government to disclose our confidential information to third parties and to exercise “march-in” rights to use or allow third parties to use our patented technology. We are also subject to certain reporting and other obligations to the U.S. government in connection with funding for BrightPath. If we were unable to maintain our existing proprietary technology, our ability to attract and retain solar partners could be impaired, our competitive position could be harmed and our revenue could be reduced.

Our business may be harmed if we fail to properly protect our intellectual property, and we may also be required to defend against claims or indemnify others against claims that our intellectual property infringes on the intellectual property rights of third parties.

We believe that the success of our business depends in part on our proprietary technology, including our software, information, processes and know-how. We rely on copyright, trade secret and patent protections to secure our intellectual property rights. Although we may incur substantial costs in protecting our technology, we cannot be certain that we have adequately protected or will be able to adequately protect it, that our competitors will not be able to utilize our existing technology or develop similar technology independently, that the claims allowed with respect to any patents held by us will be broad enough to protect our technology or that foreign intellectual property laws will adequately protect our intellectual property rights. Moreover, we cannot be certain that our patents provide us with a competitive advantage. Despite our precautions, it may be possible for third parties to obtain and use our intellectual property without our consent. Unauthorized use of our intellectual property by third parties, and the expenses incurred in protecting our intellectual property rights, may adversely affect our business. In the future, some of our products could be alleged to infringe existing patents or other intellectual property of third parties, and we cannot be certain that we will prevail in any intellectual property dispute. In addition, any future litigation required to enforce our patents, to protect our trade secrets or know-how or to defend us or indemnify others against claimed infringement of the rights of third parties could harm our business, financial condition and results of operations.

We are subject to legal proceedings, regulatory inquiries and litigation, and we may be named in additional legal proceedings, become involved in regulatory inquiries or be subject to litigation in the future, all of which are costly, distracting to our core business and could result in an unfavorable outcome, or a material adverse effect on our business, financial condition, results of operations, or the trading price for our securities.

We are involved in legal proceedings and receive inquiries from government and regulatory agencies. In the event that we are involved in significant disputes or are the subject of a formal action by a regulatory agency, we could be exposed to costly and time-consuming legal proceedings that could result in any number of outcomes. Although outcomes of such actions vary, any current or future claims or regulatory actions initiated by or against us, whether successful or not, could result in significant costs, costly damage awards or settlement amounts, injunctive relief, increased costs of business, fines or orders to change certain business practices, significant dedication of management time, diversion of significant operational resources, or otherwise harm our business.

If we are not successful in our legal proceedings and litigation, we may be required to pay significant monetary damages, which could hurt our results of operations. Lawsuits are time-consuming and expensive to resolve and divert management’s time and attention. Although we carry general liability insurance, our insurance may not cover potential claims or may not be adequate to indemnify us for all liability that may be imposed. We cannot predict how the courts will rule in any potential lawsuit against us. Decisions in favor of parties that bring lawsuits against us could subject us to significant liability for damages, adversely affect our results of operations and harm our reputation.

A failure to comply with laws and regulations relating to our interactions with current or prospective residential customers could result in negative publicity, claims, investigations, and litigation, and adversely affect our financial performance.

Our business involves transactions with homeowners. We and our solar partners must comply with numerous federal, state and local laws and regulations that govern matters relating to our interactions with homeowners, including those pertaining to privacy and data security, consumer financial and credit transactions, home improvement contracts, warranties and direct-to-home solicitation. These laws and regulations are dynamic and subject to potentially differing interpretations, and various federal, state and local legislative and regulatory bodies may expand current laws or regulations, or enact new laws and regulations, regarding these matters. Changes in these laws or regulations or their interpretation could dramatically affect how we do business, acquire customers, and manage and use information we collect from and about current and prospective customers and the costs associated therewith. We strive to comply with all applicable laws and regulations relating to our interactions with residential customers. It is possible, however, that these requirements may be interpreted and applied in a manner that is inconsistent from one jurisdiction to another and may conflict with other rules or our practices. Our noncompliance with any such laws or regulations, or the perception that we or our solar partners have violated such laws or regulations or engaged in deceptive practices that could result in a violation, could also expose us to claims, proceedings, litigation and investigations by private parties and regulatory authorities, as well as substantial fines and negative publicity, each of which may materially and adversely affect our business. We have incurred, and will continue to incur, significant expenses to comply with such laws and regulations, and increased regulation of matters relating to our interactions with residential customers could require us to modify our operations and incur significant additional expenses, which could have an adverse effect on our business, financial condition and results of operations.

Compliance with occupational safety and health requirements and best practices can be costly, and noncompliance with such requirements may result in potentially significant penalties, operational delays and adverse publicity.

The installation of solar energy systems requires our employees and employees of our solar partners to work with complicated and potentially dangerous electrical systems. The evaluation and installation of our energy-related products require these employees to work in locations that may contain potentially dangerous levels of asbestos, lead or mold or other substances. We also maintain large fleets of vehicles that these employees use in the course of their work. There is substantial risk of serious injury or death if proper safety procedures are not followed. Our operations are subject to regulation under the U.S. Occupational Safety and Health Act ("OSHA") and equivalent state laws. Changes to OSHA requirements, or stricter interpretation or enforcement of existing laws or regulations, could result in increased costs. If we fail to comply with applicable OSHA regulations, even if no work-related serious injury or death occurs, we may be subject to civil or criminal enforcement and be required to pay substantial penalties, incur significant capital expenditures, or suspend or limit operations. Any accidents, citations, violations, injuries or failure to comply with industry best practices may subject us to adverse publicity, damage our reputation and competitive position and adversely affect our business.

We are exposed to the credit risk of homeowners and payment delinquencies on our accounts receivables.

Our Customer Agreements are typically for 20 or 25 years and require the homeowner to make monthly payments to us. Accordingly, we are subject to the credit risk of homeowners. As of March 31, 2019, the average FICO score of our customers under a lease or power purchase agreement with a monthly payment schedule remained at or above 740, which is generally categorized as a "Very Good" credit profile by the Fair Isaac Corporation. However, this may decline to the extent FICO score requirements under future investment funds are relaxed. While to date homeowner defaults have been immaterial, we expect that the risk of homeowner defaults may increase as we grow our business. Due to the immaterial amount of homeowner defaults to date, our reserve for this exposure is minimal, and our future exposure may exceed the amount of such reserves. If we experience increased homeowner credit defaults, our revenues and our ability to raise new investment funds could be adversely affected. If economic conditions worsen, certain of our homeowners may face liquidity concerns and may be unable to satisfy their payment obligations to us on a timely basis or at all, which could have a material adverse effect on our financial condition and results of operations.

Obtaining a sales contract with a potential customer does not guarantee that a potential customer will not decide to cancel or that we will need to cancel due to a failed inspection, which could cause us to generate no revenue from a product and adversely affect our results of operations.

Even after we secure a sales contract with a potential customer, we (either directly or through our solar partners) must perform an inspection to ensure the home, including the rooftop, meets our standards and specifications. If the inspection finds repairs to the rooftop are required in order to satisfy our standards and specifications to install the solar energy system, and a potential customer does not want to make such required repairs, we would lose that anticipated sale. In addition, per the terms of our Customer Agreements, a customer maintains the ability to cancel before commencement of installation, subject to certain conditions. Any delay or cancellation of an anticipated sale could materially and adversely affect our financial results, as we may have incurred sales-related, design-related and other expenses and generated no revenue.

We use "open source" software in our solutions, which may require that we release the source code of certain software subject to open source licenses or subject us to possible litigation or other actions that could adversely affect our business.

We utilize software that is licensed under so-called "open source," "free" or other similar licenses. Open source software is made available to the general public on an "as-is" basis under the terms of a non-negotiable license. We currently combine our proprietary software with open source software but not in a manner that we believe requires the release of the source code of our proprietary software to the public. However, our use of open source software may entail greater risks than use of third-party commercial software. Open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. In addition, if we combine our proprietary software with open source software in a certain manner, we could, under certain open source licenses, be required to release the source code of our proprietary software to the public. This would allow our competitors to create similar offerings with lower development effort and time.

We may also face claims alleging noncompliance with open source license terms or infringement or misappropriation of proprietary software. These claims could result in litigation, require us to purchase a costly license or require us to devote additional research and development resources to change our software, any of which would have a negative effect on our business and results of operations. In addition, if the license terms for open source software that we use change, we may be forced to re-engineer our solutions, incur additional costs or discontinue the use of these solutions if re-engineering cannot be accomplished on a timely basis. Although we monitor our use of open source software to avoid subjecting our offerings to unintended conditions, few courts have interpreted open source licenses, and there is a risk that these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our ability to use our proprietary software. We cannot guarantee that we have incorporated or will incorporate open source software in our software in a manner that will not subject us to liability or in a manner that is consistent with our current policies and procedures.

Any security breach or unauthorized disclosure or theft of personal information we gather, store and use, or other hacking and phishing attacks on our systems, could harm our reputation and subject us to claims or litigation.

We receive, store and use personal information of homeowners, including names, addresses, e-mail addresses, credit information and other housing and energy use information, as well as the personal information of our employees. Unauthorized disclosure of such personal information, whether through breach of our systems by an unauthorized party, employee theft or misuse, or otherwise, could harm our business. In addition, computer malware, viruses, social engineering (predominantly spear phishing attacks), and general hacking have become more prevalent, have occurred on our systems in the past, and could occur on our systems in the future. Inadvertent disclosure of such personal information, or if a third party were to gain unauthorized access to the personal information in our possession, could result in claims or litigation arising from damages suffered by such individuals. In addition, we could incur significant costs in complying with the multitude of federal, state and local laws regarding the unauthorized disclosure of personal information. Our efforts to protect such personal information may be unsuccessful due to software bugs or other technical malfunctions; employees, contractor, or vendor error or malfeasance; or other threats that evolve. In addition, third parties may attempt to fraudulently induce employees or users to disclose sensitive information. Although we have developed systems and processes that are designed to protect the personal information we receive, store and use and to prevent or detect security breaches, we cannot assure you that such measures will provide absolute security. Finally, any perceived or actual unauthorized disclosure of such information could harm our reputation, substantially impair our ability to attract and retain homeowners and have an adverse impact on our business.

If our products do not work as well as planned or if we are unsuccessful in developing and selling new products or in penetrating new markets, our business, financial condition and results of operations could be adversely affected.

Our success and ability to compete are dependent on the products that we have developed or may develop in the future. There is a risk that the products that we have developed or may develop may not work as intended, or that the marketing of the products may not be as successful as anticipated. For example, we introduced our Brightbox energy storage system in Hawaii and California and completed the first installation in Hawaii in May 2016. If Brightbox does not work as intended or if Brightbox is not adopted in the future at the rate we expect, our business, financial condition and results of operations could be adversely affected. The development of new products generally requires substantial investment and can require long development and testing periods before they are commercially viable. We intend to continue to make substantial investments in developing new products and it is possible that that we may not develop or acquire new products or product enhancements that compete effectively within our target markets or differentiate our products based on functionality, performance or cost and
thus our new technologies and products may not result in meaningful revenue. In addition, any delays in developing and releasing new or enhanced products could cause us to lose revenue opportunities and potential customers. Any technical flaws in product releases could diminish the innovative impact of our products and have a negative effect on customer adoption and our reputation. If we fail to introduce new products that meet the demands of our customers or target markets or do not achieve market acceptance, or if we fail to penetrate new markets, our business, financial conditions and results of operations could be adversely affected.

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

We are subject to the reporting requirements of the Exchange Act, the listing requirements of the Nasdaq Stock Market and other applicable securities rules and regulations. Compliance with these rules and regulations has increased our legal and financial compliance costs, made some activities more difficult, time-consuming or costly and increased demand on our systems and resources. The Exchange Act requires, among other things, that we file annual, quarterly and current reports with respect to our business and results of operations and maintain effective disclosure controls and procedures and internal controls over financial reporting. To maintain and improve our disclosure controls and procedures and internal controls over financial reporting to meet this standard, significant resources and management oversight may be required. As a result, management's attention may be diverted from other business concerns, which could harm our business and results of operations. Although we have already hired additional employees to comply with these requirements, we may need to hire more employees in the future, which will increase our costs and expenses.

If we are unable to maintain effective disclosure controls and internal controls over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and, as a result, the value of our common stock may be materially and adversely affected.

We are required, pursuant to the Exchange Act, to furnish a report by management on, among other things, the effectiveness of our internal controls over financial reporting. This assessment includes disclosure of any material weaknesses, if any, identified by our management in our internal controls over financial reporting. We are continuing to develop and refine our disclosure controls and improve our internal controls over financial reporting. We have expended, and anticipate that we will continue to expend, significant resources in order to maintain and continuously look for ways to enhance existing effective disclosure controls and procedures and internal controls over financial reporting. Our current controls and any new controls that we develop may become inadequate because of changes in conditions in our business. In addition, we or our independent accounting firm may identify weaknesses and deficiencies that we may not otherwise identify in a timely manner in the future. If our independent accounting firm is not able to complete the work required under Section 404 of the Sarbanes-Oxley Act on a timely basis for future fiscal years, our annual report on Form 10-K may be delayed or deficient. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud will be detected.

We cannot guarantee that our internal controls over financial reporting will prevent or detect all errors and fraud. The risk of errors is increased in light of the complexity of our business and investment funds. For example, we must deal with significant complexity in accounting for our fund structures and the resulting allocation of net income (loss) between our stockholders and noncontrolling interests under the hypothetical liquidation at book value ("HLBV") method as well as the income tax consequences of these fund structures. As we enter into additional investment funds, which may have contractual provisions different from those of our existing funds, the analysis as to whether we consolidate these funds, the calculation under the HLBV method, and the analysis of the tax impact could become increasingly complicated. This additional complexity could require us to hire additional resources and increase the chance that we experience errors in the future.

If we are unable to assert that our internal controls over financial reporting is effective, we could lose investor confidence in the accuracy and completeness of our financial reports, which would cause the price of our common stock to decline. In addition, we could become subject to investigations by the Nasdaq Stock Market, the Securities and Exchange Commission ("SEC") or other regulatory authorities, which could require additional management attention and which could adversely affect our business.

Our reported financial results may be affected, and comparability of our financial results with other companies in our industry may be impacted, by changes in the accounting principles generally accepted in the United States.

Generally accepted accounting principles in the United States are subject to change and interpretation by the FASB, the SEC, and various bodies formed to promulgate and interpret appropriate accounting principles. A change in these principles or interpretations could have a significant effect on our reported financial results and on the financial results of other companies in our industry, and may even affect the reporting of transactions completed before the announcement or effectiveness of a change. For example, in May 2014 the FASB issued Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers* ("Topic 606") and in February 2016 the FASB issued Accounting Standards Update No. 2016-02, *Leases* ("Topic 842"), which affected certain elements of our accounting for revenue and costs incurred to acquire contracts when we adopted these standards in 2018. Other companies in our industry may be affected differently by the adoption of Topic 606 or other new accounting standards, including timing of the adoption of new accounting standards, adversely affecting the comparability of financial statements. See Note 2, *Summary of Significant Accounting Policies,* for information about Topic 606 and Topic 842.

We may be adversely affected by changes in U.S. tax laws.

On December 22, 2017 Congress and the current administration passed significant tax legislation including a change to the corporate tax rate. As part of this Tax Act, the current corporate income tax rate was reduced, and there were other changes including limiting or eliminating various other deductions, credits and tax preferences.

This reduction in the corporate income tax rate could reduce the value of certain benefits, such as depreciation, and reduce capacity for other benefits, such as tax credits. Limitations on, or elimination of, such tax benefits could significantly impact our ability to raise tax equity investment funds or impact the terms thereof, including the amount of cash distributable to third parties. At this time, we are evaluating the potential impact on our tax equity investment funds, business, prospects and results of operations as a result of enactment, since the impact is dependent upon certain tax treatment elections and the specific timing of taxable income/losses in future years. The new legislation includes significant changes that require additional guidance to be issued by the IRS.

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

As of December 31, 2018, we had U.S. federal and state net operating loss carryforwards of $1.1 billion each, which begin expiring in varying amounts in 2028 and 2024, respectively, if unused. Under Sections 382 and 383 of the Code if a corporation undergoes an "ownership change," the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes, such as research tax credits, to offset its post- change income and taxes may be limited. In general, an "ownership change" occurs if there is a cumulative change in our ownership by "5% shareholders" that exceeds 50 percentage points over a rolling three-year period. Similar rules may apply under state tax laws. Any such limitations on our ability to use our net operating loss carryforwards and other tax assets could adversely impact our business, financial condition and results of operations. We have performed an analysis to determine whether an ownership change under Section 382 of the Code had occurred and determined that no ownership changes were identified as of December 31, 2018.

We may be required to record an impairment expense on our goodwill or intangible assets.

We are required under generally accepted accounting principles to test goodwill for impairment at least annually or when events or changes in circumstances indicate that the carrying amount may be impaired, and to review our intangible assets for impairment when events or changes in circumstances indicate the carrying value may not be recoverable. Factors that can lead to impairment of goodwill and intangible assets include significant adverse changes in the business climate and actual or projected operating results, declines in the financial condition of our business and sustained decrease in our stock price. Since our annual impairment test of goodwill for fiscal 2018, we have not identified any qualitative factors that would require a quantitative goodwill impairment analysis. However, if we identify any factors that could indicate an impairment, including a sustained decrease in our stock price, we may be required to record charges to earnings if our goodwill becomes impaired.

Risks Related to Ownership of Our Common Stock

Our executive officers, directors and principal stockholders continue to have substantial control over us, which will limit your ability to influence the outcome of important matters, including a change in control.

Each of our executive officers, directors and each of our stockholders who beneficially own 5% or more of our outstanding common stock and their affiliates, in the aggregate, beneficially own approximately 51.3% of the outstanding shares of our common stock, based on the number of shares outstanding as of March 31, 2019. As a result, these stockholders, if acting together, will be able to influence or control matters requiring approval by our stockholders, including the election of directors and the approval of mergers, acquisitions or other extraordinary transactions. They may also have interests that differ from yours and may vote in a way with which you disagree and which may be adverse to your interests. This concentrated control may have the effect of delaying or preventing a change in control of our company, could deprive our stockholders of an opportunity to receive a premium for their capital stock and might ultimately affect the market price of our common stock.

The market price of our common stock has been and may continue to be volatile, and you could lose all or part of your investment.

The trading price of our common stock has been volatile since our initial public offering, and is likely to continue to be volatile. Factors that could cause fluctuations in the market price of our common stock include the following:

- price and volume fluctuations in the overall stock market from time to time;
- volatility in the market prices and trading volumes of companies in our industry or companies that investors consider comparable;

- changes in operating performance and stock market valuations of other companies generally, or those in our industry in particular;
- sales of shares of our common stock by us or our stockholders;
- failure of securities analysts to maintain coverage of us, changes in financial estimates by securities analysts who follow us, or our failure to meet these estimates or the expectations of investors;
- the financial projections we may provide to the public, any changes in those projections or our failure to meet those projections;
- announcements by us or our competitors of new products or services;
- the public's reaction to our press releases, other public announcements and filings with the SEC;
- rumors and market speculation involving us or other companies in our industry;
- actual or anticipated changes in our results of operations;
- changes in tax and other incentives that we rely upon in order to raise tax equity investment funds;
- changes in the regulatory environment and utility policies and pricing, including those that could reduce any savings we are able to offer to customers;
- actual or anticipated developments in our business, our competitors' businesses or the competitive landscape generally;
- litigation involving us, our industry or both, or investigations by regulators into our operations or those of our competitors;
- announced or completed acquisitions of businesses or technologies by us or our competitors;
- new laws or regulations or new interpretations of existing laws or regulations applicable to our business;
- changes in accounting standards, policies, guidelines, interpretations or principles;
- any significant change in our management; and
- general economic conditions and slow or negative growth of our markets.

Further, in recent years the stock markets have experienced price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. In addition, the stock prices of many renewable energy companies have experienced fluctuations that have often been unrelated to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, government shutdowns, interest rate changes, or international currency fluctuations, may cause the market price of our common stock to decline. In the past, following periods of volatility in the overall market and the market price of a particular company's securities, securities class action litigation has often been instituted against these companies. We are party to litigation that could result in substantial costs and a diversion of our management's attention and resources.

Sales of a substantial number of shares of our common stock in the public market, including by our existing stockholders, could cause our stock price to fall.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that these sales and others may have on the prevailing market price of our common stock.

In addition, certain of our stockholders have registration rights that would require us to register shares of our capital stock owned by them for public sale in the United States. We have also filed a registration statement to register shares of our common stock reserved for future issuance under our equity compensation plans. Subject to the satisfaction of applicable exercise periods and applicable volume and restrictions that apply to affiliates, the shares of our common stock issued upon exercise of outstanding options will become available for immediate resale in the public market upon issuance.

Future sales of our common stock may make it more difficult for us to sell equity securities in the future at a time and at a price that we deem appropriate. These sales also could cause the market price of our common stock to decline and make it more difficult for you to sell shares of our common stock.

Anti-takeover provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws, as well as provisions of Delaware law, could impair a takeover attempt.

Our amended and restated certificate of incorporation, amended and restated bylaws and Delaware law contain provisions that could have the effect of rendering more difficult, delaying, or preventing an acquisition deemed undesirable by our board of directors and therefore depress the trading price of our common stock. Among other things, our amended and restated certificate of incorporation and amended and restated bylaws include provisions:

- creating a classified board of directors whose members serve staggered three-year terms;
- authorizing “blank check” preferred stock, which could be issued by our board of directors without stockholder approval and may contain voting, liquidation, dividend and other rights superior to our common stock;
- limiting the liability of, and providing indemnification to, our directors and officers;
- limiting the ability of our stockholders to call and bring business before special meetings;
- requiring advance notice of stockholder proposals for business to be conducted at meetings of our stockholders and for nominations of candidates for election to our board of directors; and
- controlling the procedures for the conduct and scheduling of board of directors and stockholder meetings.

These provisions, alone or together, could delay or prevent hostile takeovers and changes in control or changes in our management.

As a Delaware corporation, we are also subject to provisions of Delaware law, including Section 203 of the Delaware General Corporation law, which prevents certain stockholders holding more than 15% of our outstanding capital stock from engaging in certain business combinations without approval of the holders of at least two-thirds of our outstanding capital stock not held by such stockholder. Any provision of our amended and restated certificate of incorporation, amended and restated bylaws or Delaware law that has the effect of delaying or preventing a change in control could limit the opportunity for our stockholders to receive a premium for their shares of our capital stock and could also affect the price that some investors are willing to pay for our common stock.

Provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws limit the ability of our stockholders to call special meetings and prohibit stockholder action by written consent.

Our amended and restated certificate of incorporation provides that our stockholders may not take action by written consent. Instead, any such actions must be taken at an annual or special meeting of our stockholders. As a result, our stockholders are not able to take any action without first holding a meeting of our stockholders called in accordance with the provisions of our amended and restated bylaws, including advance notice procedures set forth in our amended and restated bylaws. Our amended and restated bylaws further provide that special meetings of our stockholders may be called only by a majority of our board of directors, the chairman of our board of directors, our Chief Executive Officer or our President. As a result, our stockholders are not allowed to call a special meeting. These provisions may delay the ability of our stockholders to force consideration of a stockholder proposal, including a proposal to remove directors.

Provisions contained in our amended and restated certificate of incorporation and amended and restated bylaws could preclude our stockholders from bringing matters before meetings of stockholders and delay changes in our board of directors.

Our amended and restated bylaws provide advance notice procedures for stockholders seeking to bring business before, or nominate candidates for election as directors at, our annual or special meetings of stockholders. In addition, our amended and restated certificate of incorporation provides that stockholders may remove directors only for cause. Any amendment of these provisions in our amended and restated bylaws or amended and restated certificate of incorporation would require approval by holders of at least 66 2/3% of our then outstanding capital stock. These provisions could preclude our stockholders from bringing matters before annual or special meetings of stockholders and delay changes in our board of directors.

Our amended and restated bylaws provide that a state or federal court located within the State of Delaware will be the sole and exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our amended and restated bylaws provide that, unless we consent to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of fiduciary duty owed by any of our directors, officers or other employees to us or to our stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law or (iv) any action asserting a claim governed by the internal affairs doctrine shall be a state or federal court located within the state of Delaware, in all cases subject to the court's having personal jurisdiction over the indispensable parties names as defendants. The choice of forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits against us and our directors, officers and other employees. Alternatively, if a court were to find the choice of forum provision contained in our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, results of operations and financial condition.

If securities or industry analysts cease publishing research or reports about us, our business, our market or our competitors, or if they adversely change their recommendations regarding our common stock, the market price of our common stock and trading volume could decline.

The market for our common stock is influenced by the research and reports that securities or industry analysts publish about us, our business, our market or our competitors. If any of the analysts who cover us adversely change their recommendations regarding our common stock, or provide more favorable recommendations about our competitors, the market price of our common stock would likely decline. If any of the analysts who cover us cease coverage of our company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the market price of our common stock and trading volume to decline.

We do not expect to declare any dividends in the foreseeable future.

We do not anticipate declaring any cash dividends to holders of our common stock in the foreseeable future. Consequently, investors may need to rely on sales of our common stock after price appreciation, which may never occur or only occur at certain times, as the only way to realize any future gains on their investment. Investors seeking cash dividends should not purchase shares of our common stock.

Additional stock issuances could result in dilution to our stockholders.

We may issue additional equity securities to raise capital, make acquisitions or for a variety of other purposes. Additional issuances of our stock may be made pursuant to the exercise or conversion of new or existing convertible debt securities, warrants, stock options or other equity incentive awards to new and existing service providers. Any such issuances will result in dilution to existing holders of our stock. We rely on equity-based compensation as an important tool in recruiting and retaining employees. The amount of dilution due to equity-based compensation of our employees and other additional issuances could be substantial.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

Unregistered Sales of Equity Securities

None.

Issuer Purchases of Equity Securities

None.

Item 5. OTHER INFORMATION

None.

Item 6. EXHIBITS

The documents listed in the Exhibit Index of this Quarterly Report on Form 10-Q are incorporated by reference or are filed with this Quarterly Report on Form 10-Q, in each case as indicated therein (numbered in accordance with Item 601 of Regulation S-K).

EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporated by Reference Form	File No.	Exhibit	Filing Date
10.1¥	Consent, Waiver and Fifth Amendment to Second Amended and Restated Credit Agreement and Sixth Amendment to Amended and Restated Cash Diversion and Commitment Fee Guaranty dated as of February 28, 2019, among Sunrun Hera Portfolio 2015-A, LLC, Sunrun Inc., Investec Bank PLC and each of the additional lenders identified on the signature pages thereto.				
10.2¥	Sixth Amendment to Second Amended and Restated Credit Agreement and Seventh Amendment to Amended and Restated Cash Division and Commitment Fee Guaranty dated as of February 28, 2019, among Sunrun Hera Portfolio 2015-A, LLC, Sunrun Inc., Investec Bank PLC and each of the additional lenders identified on the signature pages thereto.				
31.1	Certification of Chief Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2	Certification of Chief Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1†	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS	XBRL Instance Document.				
101.SCH	XBRL Taxonomy Schema Linkbase Document.				
101.CAL	XBRL Taxonomy Definition Linkbase Document.				
101.DEF	XBRL Taxonomy Calculation Linkbase Document.				
101.LAB	XBRL Taxonomy Labels Linkbase Document.				
101.PRE	XBRL Taxonomy Presentation Linkbase Document.				

¥ Portions of this exhibit have been omitted from the exhibit because they are both not material and would be competitively harmful if publicly disclosed.

† The certifications attached as Exhibit 32.1 that accompany this Quarterly Report on Form 10-Q are deemed furnished and not filed with the Securities and Exchange Commission and are not to be incorporated by reference into any filing of Sunrun Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Quarterly Report on Form 10-Q, irrespective of any general incorporation language contained in such filing.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

SUNRUN INC.

Date: May 8, 2019

By: /s/ Lynn Jurich

Lynn Jurich
Chief Executive Officer
(Principal Executive Officer)

By: /s/ Bob Komin

Bob Komin
Chief Financial Officer
(Principal Accounting and Financial Officer)

[***] = Certain information contained in this document, marked by brackets, has been omitted because it is both not material and would be competitively harmful if publicly disclosed.

Exhibit 10.1

CONSENT, WAIVER AND FIFTH AMENDMENT TO SECOND AMENDED AND RESTATED CREDIT AGREEMENT AND SIXTH AMENDMENT TO AMENDED AND RESTATED CASH DIVERSION AND COMMITMENT FEE GUARANTY

This CONSENT, WAIVER AND FIFTH AMENDMENT TO SECOND AMENDED AND RESTATED CREDIT AGREEMENT AND SIXTH AMENDMENT TO AMENDED AND RESTATED CASH DIVERSION AND COMMITMENT FEE GUARANTY, dated as of February 28, 2019 (this "Amendment"), is entered into among the undersigned in connection with (a) that certain Second Amended and Restated Credit Agreement, dated as of March 27, 2018, among Sunrun Hera Portfolio 2015-A, LLC, a Delaware limited liability company, as Borrower (the "Borrower"), the financial institutions as Lenders from time to time party thereto (the "Lenders"), and Investec Bank PLC, as Administrative Agent for the Lenders (in such capacity, the "Administrative Agent") and as Issuing Bank (in such capacity, the "Issuing Bank") (the "Credit Agreement" and as amended by this Amendment, the "Amended Credit Agreement") and (b) the Cash Diversion and Commitment Fee Guaranty (as in effect prior to the date hereof, the "Guaranty" and as amended by this Amendment, the "Amended Guaranty"). Capitalized terms which are used but not otherwise defined herein shall have the meanings ascribed to such terms in the Amended Credit Agreement and the rules of construction set forth in Section 1.02 of the Credit Agreement apply to this Amendment.

W I T N E S S E T H

WHEREAS, the Borrower wishes to obtain, and the Administrative Agent and the Required Lenders wish to provide, consent to the acquisition by the Borrower of (a) Sunrun Ulysses Manager 2019, LLC, a Delaware limited liability company and a Tax Equity Holdco and (b) Sunrun Cygnus Manager 2018 LLC, a Delaware limited liability company and a Tax Equity Holdco (such acquisitions, collectively, the "Tax Equity Holdco Acquisitions"); and

WHEREAS, the Borrower and the Sponsor also wish to make, and the undersigned also wish to agree to make, certain additional amendments to the Credit Agreement and the Guaranty as provided herein.

NOW, THEREFORE, in consideration of the mutual agreements, provisions and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

I.Amendments to the Credit Agreement. Subject to the satisfaction of the conditions set forth in Article V below, the following amendments to the Credit Agreement are hereby accepted and agreed by the parties hereto:

1. Amendment to Section 1.01. The following are hereby added as new defined terms to Section 1.01 of the Credit Agreement in the appropriate alphabetical order

""Cygnus 2018 Purchase Agreement" shall mean that certain Master Purchase Agreement, dated as of November 30, 2018, entered into between Sponsor and Sunrun Cygnus Owner 2018, LLC."

""Ulysses 2019 LLC Agreement" shall mean that certain Amended and Restated Operating Agreement of Sunrun Ulysses Owner 2019, LLC, dated as of January 31, 2019, entered into by and between Sunrun Ulysses Manager 2019, LLC and **[***]**."

""Ulysses 2019 Purchase Agreement" shall mean that certain Master Purchase Agreement, dated as of January 31, 2019, entered into between Sponsor and Sunrun Ulysses Owner 2019, LLC."

2. New Section 7.25. Article VII of the Credit Agreement is hereby amended by inserting the following as a new Section 7.25:

"The Borrower shall not cause or otherwise permit any **[***]** Project (as defined in the Ulysses 2019 LLC Agreement or the Cygnus 2018 Purchase Agreement) to be treated as an Eligible Project."

3. New Section 7.26. Article VII of the Credit Agreement is hereby amended by inserting the following as a new Section 26:

"The Borrower shall not cause or otherwise permit any New Home Project (as defined in the Ulysses 2019 LLC Agreement) to be treated as an Eligible Project unless and until (i) such New Home Project has become a "Former New Home Project" (as defined in the Ulysses 2019 LLC Agreement), (ii) such Former New Home Project meets the conditions set forth in the definition of "Eligible Project" and (iii) there has occurred an inspection of the residential structure or building associated with such New Home Project conducted by an official of the applicable Governmental Authority when such structure or building is completed and ready for occupancy."

II. Amendment to the Cash Diversion and Commitment Fee Guaranty. Subject to the satisfaction of the conditions set forth in Article V below, the definition of "Cash Diversion" in Section 1.01 of the Guaranty is hereby amended by (replacing the period at the end of clause (ee) with the text"; and" and (ii) inserting the following as new clauses (ff) and (gg):

"(ff) if, for any quarterly period preceding a Calculation Date, expenses, including, without limitation, operations and maintenance expenses and payments under any production guarantee, incurred in connection with any and all **[***]** Projects (as defined in the Ulysses 2019 LLC Agreement) exceed aggregate revenues from such **[***]** Projects, in the amount of such excess.

(gg) any **[***]** required to be made pursuant to Section 4.01(i)(v) of the Amended and Restated Limited Liability Company Agreement of Sunrun Cygnus

Owner 2018, LLC, dated as of November 30, 2018, entered into by and between Sunrun Cygnus Manager 2018, LLC and **[***]** (the "Cygnus 2018 LLCA").

III. Limited Consent. At the request of the Borrower and subject to the satisfaction of the conditions set forth in Article V below, the Administrative Agent and each of the undersigned Lenders hereby consents and agrees to the Tax Equity Holdco Acquisitions, for which consent of the Administrative Agent and the Required Lenders is required pursuant to Section 2.05(b)(iii) of the Amended Credit Agreement (the "Consent"). The Consent granted pursuant to this Article III is limited precisely as written and shall not extend to any other provision of the Credit Agreement or the Amended Credit Agreement.

IV. Limited Waiver. At the request of the Borrower and subject to the satisfaction of the conditions set forth in Article V below, each of the undersigned Lenders hereby agrees to waive solely for the purpose of the Borrowing to occur in February 2019 the requirement pursuant to Section 2.01(c) of the Credit Agreement to deliver a Borrowing Notice at least five (5) Business Days in advance of the proposed funding; provided that the Borrower delivers such Borrowing Notice at least three (3) Business Days in advance of the February 2019 funding date in accordance with Section 2.01(c) of the Credit Agreement (the "Waiver").

V. Conditions Precedent to Effectiveness. The amendments contained in Articles I and II, the Consent contained in Article III and the Waiver contained in Article IV shall not be effective until the date (such date, the "Amendment Effective Date") that:

1. the Administrative Agent shall have received copies of this Amendment executed by the Borrower, the Sponsor and the Required Lenders, and acknowledged by the Administrative Agent; and

2. the Borrower shall have paid all fees, costs and expenses of the Administrative Agent and the Lenders incurred in connection with the execution and delivery of this Amendment (including third-party fees and out-of-pocket expenses of the Lenders' counsel and other advisors or consultants retained by the Administrative Agent).

VI. Representations and Warranties. Each of the Borrower and, as applicable, the Sponsor represents and warrants to each Agent and each Lender Party that the following statements are true, correct and complete in all respects as of the Amendment Effective Date:

1. Power and Authority; Authorization. Each of the Borrower and the Sponsor has all requisite power and authority to execute, deliver and perform its obligations under this Amendment and the Borrower has all requisite power and authority to perform its obligations under the Amended Credit Agreement and the Sponsor has all requisite power and authority to perform its obligations under the Amended Guaranty. Each of the Borrower and the Sponsor has duly authorized, executed and delivered this Amendment.

2. Enforceability. Each of this Amendment and the Amended Credit Agreement is a legal, valid and binding obligation of the Borrower, enforceable against the Borrower in accordance with its terms, except to the extent that enforceability may be limited by (i) applicable bankruptcy,

insolvency, moratorium, reorganization or other similar laws affecting the enforcement of creditors' rights, (ii) the effect of general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law) or (iii) implied covenants of good faith and fair dealing. Each of this Amendment and the Amended Guaranty is a legal, valid and binding obligation of the Sponsor, enforceable against the Sponsor in accordance with its terms, except to the extent that enforceability may be limited by (i) applicable bankruptcy, insolvency, moratorium, reorganization or other similar laws affecting the enforcement of creditors' rights, (ii) the effect of general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law) or (iii) implied covenants of good faith and fair dealing

3. Credit Agreement and Guaranty Representations and Warranties. Each of the representations and warranties set forth in the Credit Agreement (with respect to the Borrower) and the Guaranty (with respect to the Sponsor) is true and correct in all respects both before and after giving effect to this Amendment, except to the extent that any such representation and warranty relates solely to any earlier date, in which case such representation and warranty is true and correct in all respects as of such earlier date.

4. Defaults. No event has occurred or is continuing as of the date hereof, or will result from the transactions contemplated hereby as of the date hereof, that would constitute an Event of Default or a Default.

5. Cygnus 2018 **[***]**. (a) each of the conditions set forth in Section 4.06(t) of the Cygnus 2018 LLCA have been satisfied, (b) all PV Systems (as defined in the Cygnus 2018 LLCA) that are (or will be) owned, by Sunrun Cygnus Owner 2018, LLC are (or will be) insured under the **[***]** (as defined in the Cygnus 2018 LLCA), (c) all premiums required to be paid under the **[***]** with respect to the PV Systems that are owned by Sunrun Cygnus Owner 2018, LLC have been paid by Sponsor and (d) no further payments under the **[***]** will be required to continue the effectiveness of the **[***]** for any currently existing or any future PV Systems of Sunrun Cygnus Owner 2018, LLC.

VII. Limited Amendment and Waiver. Except as expressly set forth herein, this Amendment shall not, by implication or otherwise, limit, impair, constitute a waiver of or otherwise affect the rights and remedies of the Lenders or the other Secured Parties under the Credit Agreement or any other Loan Document, and shall not alter, modify, amend or in any way affect any of the terms, conditions, obligations, covenants or agreements contained in the Credit Agreement or any other provision of the Credit Agreement or any other Loan Document, and each of the Borrower and the Sponsor acknowledges and agrees that each of the Loan Documents to which it is a party or otherwise bound shall continue in full force and effect and that all of its obligations thereunder shall be valid and enforceable and shall not be impaired or limited by the execution or effectiveness of this Amendment. From and after the Amendment Effective Date, all references to (i) the Credit Agreement in any Loan Document shall, unless expressly provided otherwise, refer to the Amended Credit Agreement and (ii) the Guaranty in any Loan Document shall, unless expressly provided otherwise, refer to the Amended Guaranty.

VIII. Miscellaneous.

1. Counterparts. This Amendment may be executed in one or more duplicate counterparts and by facsimile or other electronic delivery and by different parties on different counterparts, each of which shall constitute an original, but all of which shall constitute a single document and when signed by all of the parties listed below shall constitute a single binding document.

2. Severability. In case any one or more of the provisions contained in this Amendment should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby, and the parties hereto shall enter into good faith negotiations to replace the invalid, illegal or unenforceable provision.

3. Governing Law, etc.. THIS AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED UNDER, THE LAWS OF THE STATE OF NEW YORK. The provisions in Sections 12.08(b) through (d) and Section 12.09 of the Amended Credit Agreement shall apply, *mutatis mutandis*, to this Amendment and the parties hereto.

4. Loan Document. This Amendment shall be deemed to be a Loan Document for all purposes of the Amended Credit Agreement and each other Loan Document.

5. Headings. Paragraph headings have been inserted in this Amendment as a matter of convenience for reference only and it is agreed that such paragraph headings are not a part of this Amendment and shall not be used in the interpretation of any provision of this Amendment.

6. Execution of Documents. The undersigned Lenders hereby authorize and instruct the Administrative Agent to execute and deliver this Amendment.

[*Signature Pages Follow*]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered by their duly authorized officers as of the day and year first above written.

SUNRUN HERA PORTFOLIO 2015-A, LLC,
as Borrower

By: Sunrun Hera Portfolio 2015-B, LLC
Its: Sole Member

By: Sunrun Hera Holdco 2015, LLC
Its: Sole Member

By: Sunrun Inc.
Its: Sole Member

By: /s/ Robert Komin, Jr.
Name: Robert Komin, Jr.
Title: Chief Financial Officer

SUNRUN INC.,
as Guarantor

By: /s/ Robert Komin, Jr.
Name: Robert Komin, Jr.
Title: Chief Financial Officer

INVESTEC BANK PLC,
as Administrative Agent

By: /s/ Andrew Nosworthy
Name: Andrew Nosworthy
Title: Authorised Signatory

By: /s/ Olivier Fricot
Name: Olivier Fricot
Title: Authorised Signatory

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

INVESTEC BANK PLC,
as Issuing Bank

By: /s/ Andrew Nosworthy
Name: Andrew Nosworthy
Title: Authorised Signatory

By: /s/ Olivier Fricot
Name: Olivier Fricot
Title: Authorised Signatory

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

INVESTEC BANK PLC,
as Lender

By: /s/ Andrew Nosworthy
Name: Andrew Nosworthy
Title: Authorised Signatory

By: /s/ Olivier Fricot
Name: Olivier Fricot
Title: Authorised Signatory

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

SUNRUN GAIA PORTFOLIO 2016-A, LLC,
as Lender

By: Sunrun Gaia Holdco 2016, LLC
Its: Sole Member

By: Sunrun Inc.
Its: Sole Member

By: /s/ Robert Komin, Jr.
Name: Robert Komin, Jr.
Title: Chief Financial Officer

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

SUNTRUST BANK,
as Lender

By: /s/ Nina Johnson
Name: Nina Johnson
Title: Director

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

SILICON VALLEY BANK,
as Lender

By: /s/ Sayoji Goli
Name: Sayoji Goli
Title: Vice President

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

ABN AMRO CAPITAL USA LLC,
as Lender

By: /s/ Paul Snow
Name: Paul Snow
Title: Director

By: /s/ Remco Jongkind
Name: Remco Jongkind
Title: Managing Director

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

ING CAPITAL LLC,
as Lender

By: /s/ Thomas Cantello
Name: Thomas Cantello
Title: Managing Director

By: /s/ Stefano Palombo
Name: Stefano Palombo
Title: Vice President

KEYBANK NATIONAL ASSOCIATION,
as Lender

By: /s/ Lisa A. Ryder
Name: Lisa A. Ryder
Title: Senior Vice President

[Signature Page to Consent and Fifth Amendment (2nd A&R AF Credit Agreement)]

[***] = Certain information contained in this document, marked by brackets, has been omitted because it is both not material and would be competitively harmful if publicly disclosed.

Exhibit 10.2

SIXTH AMENDMENT TO SECOND AMENDED AND RESTATED CREDIT AGREEMENT AND SEVENTH AMENDMENT TO AMENDED AND RESTATED CASH DIVERSION AND COMMITMENT FEE GUARANTY

This SIXTH AMENDMENT TO SECOND AMENDED AND RESTATED CREDIT AGREEMENT AND SEVENTH AMENDMENT TO AMENDED AND RESTATED CASH DIVERSION AND COMMITMENT FEE GUARANTY, dated as of February 28, 2019 (this "Amendment"), is entered into among the undersigned in connection with that certain (a) Second Amended and Restated Credit Agreement, dated as of March 27, 2018, among Sunrun Hera Portfolio 2015-A, LLC, a Delaware limited liability company, as Borrower (the "Borrower"), the financial institutions as Lenders from time to time party thereto (the "Lenders"), and Investec Bank PLC, as Administrative Agent for the Lenders (in such capacity, the "Administrative Agent") and as Issuing Bank (in such capacity, the "Issuing Bank") (as in effect prior to the date hereof, the "Credit Agreement" and as amended by this Amendment, the "Amended Credit Agreement") and (b) the Cash Diversion and Commitment Fee Guaranty (as in effect prior to the date hereof, the "Guaranty" and as amended by this Amendment, the "Amended Guaranty").. Capitalized terms which are used but not otherwise defined herein shall have the meanings ascribed to such terms in the Amended Credit Agreement and the rules of construction set forth in Section 1.02 of the Credit Agreement apply to this Amendment.

W I T N E S S E T H

WHEREAS, the Borrower and the Sponsor wish to make, and the undersigned wish to agree to make, certain amendments to the Credit Agreement and the Guaranty as provided herein.

NOW, THEREFORE, in consideration of the mutual agreements, provisions and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

I.Amendments to the Credit Agreement. Subject to the satisfaction of the conditions set forth in Article III below, the following amendments to the Credit Agreement are hereby accepted and agreed by the parties hereto:

1. Amendments to Section 1.01. The following are hereby added as new defined terms to Section 1.01 of the Credit Agreement in the appropriate alphabetical order:

> ""Aggregate Customer Agreement Recovery Rate" means, as of any Calculation Date and with respect to any applicable group of Projects where a Completed Service Transfer has occurred with respect to such Project during the six-month period ending on such Calculation Date, the quotient obtained by dividing (a) the sum of (i) the present value of the aggregate remaining contracted Comparison Customer Agreement cash flows for all such Projects on such Calculation Date (after any Completed Service Transfer discounted at an annual rate of 6%) and (ii) aggregate prepayments received in connection with any Completed Service Transfer

for all such Projects by (b) the present value of the aggregate remaining contracted Comparison Customer Agreement cash flows for all such Projects (calculated on such Calculation Date as if such Completed Service Transfer had not occurred and no payments were received in connection with such Completed Service Transfer) discounted at an annual rate of 6%."

""Comparison Customer" shall mean a Person party to a Comparison Customer Agreement who leases, or agrees to purchase Energy produced by, a Project."

""Comparison Customer Agreement" shall mean those power purchase agreements or customer lease agreements (together with all ancillary agreements and documents related thereto, including any assignment agreement to a replacement Comparison Customer) with respect to a Project, whereby the Comparison Customer agrees to purchase the Energy produced by the related Project for a fixed fee per kWh, or agrees to lease the Project for monthly lease payments."

""Completed Service Transfer" means the assignment of a Comparison Customer Agreement to a subsequent Comparison Customer (including, without limitation, any assignments made in connection with a foreclosure or bankruptcy)."

""Completed Service Transfer Recovery Differential" means, as of any Calculation Date, the difference obtained by subtracting (a) the Aggregate Customer Agreement Recovery Rate for Non-Fixture Filing Systems from (b) the Aggregate Customer Agreement Recovery Rate for Fixture Filing Systems."

""Fixture Filing Systems" means each Project owned by Sponsor or any of its Affiliates in a Project State (other than Projects located in the State of California) in respect of which a fixture filing had been recorded and was in effect against the applicable Customer and the applicable property in the filing office designated by Section 9-501 of the applicable Uniform Commercial Code at the time of the Completed Service Transfer or Uncompleted Service Transfer."

""Interim Fixture Filing Event" means the occurrence of any of the following on or after June 30, 2019: (a) as of any applicable Calculation Date where the aggregate capacity of Fixture Filing Systems is equal to or greater than **[***]** MW, the Completed Service Transfer Recovery Differential calculated on such Calculation Date is equal to or greater than **[***]**, (b) as of any applicable Calculation Date where the aggregate capacity of Fixture Filing Systems is less than **[***]** MW, the Aggregate Customer Agreement Recovery Rate for Non-Fixture Filing Systems calculated on such Calculation Date is less than or equal to **[***]**, or (c) as of any applicable Calculation Date, the number of Uncompleted Service Transfers in respect of Non-Fixture Filing Systems during the six-month period ending on such Calculation Date is equal to or greater than **[***]** percent (**[***]**%) of the number of Total Service Transfers in respect of Non-Fixture Filing Systems during the six-month period ending on such Calculation Date."

""Non-Fixture Filing Systems" means each Project owned by Sponsor or any of its Affiliates in a Project State (other than Projects located in the State of California) that is not a Fixture Filing System."

""Project Pool Fixture Filing Event" means the occurrence of any of the events described in clauses (a), (b) or (c) below on or after June 30, 2019 or the occurrence of the event describe in clause (d) or (e) below on or after February 28, 2019: (a) as of any applicable Calculation Date where the aggregate capacity of Fixture Filing Systems is equal to or greater than **[***]** MW, the Completed Service Transfer Recovery Differential calculated on such Calculation Date is equal to or greater than of **[***]**, (b) as of any Calculation Date where the aggregate capacity of Fixture Filing Systems is less than **[***]** MW, the Aggregate Customer Agreement Recovery Rate for Non-Fixture Filing Systems calculated on such Calculation Date is less than or equal to **[***]**, (c) as of any applicable Calculation Date, the number of Uncompleted Service Transfers in respect of Non-Fixture Filing Systems during the six-month period ending on such Calculation Date is equal to or greater than **[***]** percent (**[***]**%) of the number of Total Service Transfers in respect of Non-Fixture Filing Systems during the six-month period ending on such Calculation Date, (d) the **[***]** expires or is terminated and Sponsor does not enter into a replacement agreement in form and substance, and with a counterparty, acceptable to the Administrative Agent (acting on the instruction of the Required Lenders) within thirty (30) days of such expiration or termination, or (e) a material breach of the **[***]** by either Sponsor or the counterparty to the **[***]** has occurred and is continuing, and both (i) such breach is not cured within thirty (30) days following its occurrence and (ii) Sponsor does not enter into a replacement agreement in form and substance, and with a counterparty, acceptable to the Administrative Agent (acting on the instruction of the Required Lenders) within thirty (30) days following the end of such thirty (30) day cure period."

""**[***]**" shall mean the Statement of Work **[***]** for **[***]**, dated as of August 1, 2018, between Sponsor and **[***]** and the Master Services Agreement, dated as of April 11, 2014, between Sponsor and **[***]** (or any replacement agreement or agreements approved by the Administrative Agent, acting at the direction of the Required Lenders)."

""Uncompleted Service Transfer" means a situation in which a Comparison Customer voluntarily or involuntarily sells or transfers title to the real property associated with a Project to a purchaser who does not assume the Comparison Customer's obligations under the Comparison Customer Agreement."

""Total Service Transfers" means all Completed Service Transfers and Uncompleted Service Transfers."

2. Amendment to Section 5.23(k). Section 5.23(k) of the Credit Agreement is hereby amended by replacing the text "In respect of each Eligible Project in a Project State" with the text "In respect of each Eligible Project owned by a Wholly Owned Opco".

3. Amendment to Section 6.01(a)(iii). The second sentence of Section 6.01(a)(iii) of the Credit Agreement is hereby amended and restated in its entirety as follows:

> "Such Manager's report shall include information regarding the Completed Service Transfer Recovery Differential, Uncompleted Service Transfers, and information on Battery performance, including disclosure of any Serial Defects, Implicated Battery Models and Battery Replacement Costs, information on failure rates and any other information as the Administrative Agent or Independent Engineer may reasonably request in determining the Required Battery Reserve Amount."

4. New Section 6.31. Article VI of the Credit Agreement is hereby amended by inserting the following as a new Section 6.31:

> "In the event an Interim Fixture Filing Event occurs and is continuing, Borrower shall (a) instruct a competent third party service provider to file (with a copy of such instruction delivered to the Administrative Agent) in respect of each Eligible Project (other than (i) provided that a Qualifying California Code remains in effect in the State of California, any Eligible Project located in the State of California and (ii) any Eligible Project that is a Fixture Filing System) installed after the relevant Calculation Date a fixture filing against each Customer and the applicable property in respect of such Eligible Project in the filing office designated by Section 9-501 of the applicable Uniform Commercial Code within five (5) Business Days of the date on which the Manager's report described in Section 6.01(a)(iii) is required to be delivered in respect of the Calculation Date on which the Interim Fixture Filing Event occurred, and (b) cause such filings to be made no later than sixty (60) days after such instruction is delivered."

5. New Section 6.32. Article VI of the Credit Agreement is hereby amended by inserting the following as a new Section 6.32:

> "In the event a Project Pool Fixture Filing Event occurs, Borrower shall (a) instruct a competent third party service provider to file (with a copy of such instruction delivered to the Administrative Agent) in respect of each Eligible Project (other than (i) provided that a Qualifying California Code remains in effect in the State of California, any Eligible Project located in the State of California and (ii) any Eligible Project that is a Fixture Filing System) a fixture filing against each Customer and the applicable property in respect of such Eligible Project in the filing office designated by Section 9-501 of the applicable Uniform Commercial Code within five (5) Business Days of the date on which the Manager's report described in Section 6.01(a)(iii) is required to be delivered in respect of the Calculation Date on which the Project Pool Fixture Filing Event occurred, (or, solely with respect to a Project Pool Fixture Filing Event described in clause (d) or (e) of the definition thereof, within five (5) Business Days of the occurrence of such event), and (b) cause such filings to be made no later than sixty (60) days after such instruction is delivered."

6. New Section 6.33. Article VI of the Credit Agreement is hereby amended by inserting the following as a new Section 6.33:

> "In the event that the real property underlying an Eligible Project is subject to foreclosure or pre-foreclosure proceedings, Borrower shall (a) instruct a competent third party service provider to file in respect of such Eligible Project (other than (i) provided that a Qualifying California Code remains in effect in the State of California, any Eligible Project located in the State of California and (ii) any Eligible Project that is a Fixture Filing System) a fixture filing against the applicable Customer and the applicable property in respect of such Eligible Project in the filing office designated by Section 9-501 of the applicable Uniform Commercial Code within five (5) Business Days of the date on which the Borrower or any of its Affiliates obtains actual knowledge of such proceedings, and (b) cause such filing to be made no later than the earlier of (i) thirty (30) days after such instruction is delivered and (ii) ninety (90) days after the Borrower or any of its Affiliates obtains actual knowledge that the real property underlying an Eligible Project has become subject to foreclosure or pre-foreclosure proceedings; provided that any failure to comply with this Section 6.33 in any single instance shall not be deemed a breach of this Section 6.33 unless and until such failure, together with any prior failures, has occurred within the preceding twelve (12) month period with respect to twenty-five (25) or more Eligible Projects ."

7. Amendment to Section 10.01(c)(iii). Section 10.01(c) is hereby amended by replacing the text "and Section 6.24(a)" with "Section 6.24 and Section 6.32".

II. Amendments to the Guaranty. Subject to the satisfaction of the conditions set forth in Article III below, the following amendments to the Guaranty are hereby accepted and agreed by the parties hereto:

1. Amendment to Section 2.01. Section 2.01 of the Guaranty is hereby amended by replacing all text after clause (e) with the following and restated in its entirety as follows:

> "(f) for the benefit of the Lender Parties, the amount of any **[***]**, as an when such amount is required to be deposited into the **[***]** pursuant to Section 6.30 of the Credit Agreement and (g) the amount of any filing fees and service fees incurred by the Borrower to make any fixture filings required to be made pursuant to Section 6.31 or Section 6.32 of the Credit Agreement (all such obligations set forth in subclauses (a) through (g), collectively defined as the "Guaranteed Obligations")."

2. New Section 4.07. Article IV of the Guaranty is hereby amended by inserting the following as a new Section 4.07:

> "**[***]**. Guarantor shall promptly, but in no event later than three (3) Business Days after the earlier of its or any Subsidiary's receipt or Knowledge thereof, deliver, or cause to be delivered, to the Administrative Agent, notice of any expiration or termination of, or default or event of default under, the **[***]**."

III. Conditions Precedent to Effectiveness. The amendments contained in Article I and Article II shall not be effective until the date (such date, the "Amendment Effective Date") that:

1. the Administrative Agent shall have received copies of this Amendment executed by the Borrower, the Sponsor and the Required Lenders, and acknowledged by the Administrative Agent;

2. the Borrower shall have paid (or caused to be paid) (i) to the Administrative Agent, for its own account, a nonrefundable administrative agency fee for work in connection with the negotiation and execution of this Amendment and (ii) to each of the undersigned Lenders, a nonrefundable approval fee in an amount equal to 0.05% of such Lender's Commitment under the Credit Agreement; and

3. the Borrower shall have paid all other fees, costs and expenses of the Administrative Agent and the Lenders incurred in connection with the execution and delivery of this Amendment (including third-party fees and out-of-pocket expenses of the Lenders' counsel and other advisors or consultants retained by the Administrative Agent).

IV. Representations and Warranties. Each of the Borrower and, as applicable, the Sponsor represents and warrants to each Agent and each Lender Party that the following statements are true, correct and complete in all respects as of the Amendment Effective Date:

1. Power and Authority; Authorization. Each of the Borrower and the Sponsor has all requisite power and authority to execute, deliver and perform its obligations under this Amendment and the Borrower has all requisite power and authority to perform its obligations under the Amended Credit Agreement and the Sponsor has all requisite power and authority to perform its obligations under the Amended Guaranty. Each of the Borrower and the Sponsor has duly authorized, executed and delivered this Amendment.

2. Enforceability. Each of this Amendment and the Amended Credit Agreement is a legal, valid and binding obligation of the Borrower, enforceable against the Borrower in accordance with its terms, except to the extent that enforceability may be limited by (i) applicable bankruptcy, insolvency, moratorium, reorganization or other similar laws affecting the enforcement of creditors' rights, (ii) the effect of general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law) or (iii) implied covenants of good faith and fair dealing. Each of this Amendment and the Amended Guaranty is a legal, valid and binding obligation of the Sponsor, enforceable against the Sponsor in accordance with its terms, except to the extent that enforceability may be limited by (i) applicable bankruptcy, insolvency, moratorium, reorganization or other similar laws affecting the enforcement of creditors' rights, (ii) the effect of general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law) or (iii) implied covenants of good faith and fair dealing.

3. Credit Agreement and Guaranty Representations and Warranties. Each of the representations and warranties set forth in the Credit Agreement (with respect to the Borrower) and the Guaranty (with respect to the Sponsor) is true and correct in all respects both before and after giving effect to this Amendment, except to the extent that any such representation and warranty

relates solely to any earlier date, in which case such representation and warranty is true and correct in all respects as of such earlier date.

4. Defaults. No event has occurred or is continuing as of the date hereof, or will result from the transactions contemplated hereby as of the date hereof, that would constitute an Event of Default or a Default.

V. Limited Amendment. Except as expressly set forth herein, this Amendment shall not, by implication or otherwise, limit, impair, constitute a waiver of or otherwise affect the rights and remedies of the Lenders or the other Secured Parties under the Credit Agreement or any other Loan Document, and shall not alter, modify, amend or in any way affect any of the terms, conditions, obligations, covenants or agreements contained in the Credit Agreement or any other provision of the Credit Agreement or any other Loan Document, and each of the Borrower and the Sponsor acknowledges and agrees that each of the Loan Documents to which it is a party or otherwise bound shall continue in full force and effect and that all of its obligations thereunder shall be valid and enforceable and shall not be impaired or limited by the execution or effectiveness of this Amendment. From and after the Amendment Effective Date, all references to (i) the Credit Agreement in any Loan Document shall, unless expressly provided otherwise, refer to the Amended Credit Agreement and (ii) the Guaranty in any Loan Document shall, unless expressly provided otherwise, refer to the Amended Guaranty.

VI. Miscellaneous.

1. Counterparts. This Amendment may be executed in one or more duplicate counterparts and by facsimile or other electronic delivery and by different parties on different counterparts, each of which shall constitute an original, but all of which shall constitute a single document and when signed by all of the parties listed below shall constitute a single binding document.

2. Severability. In case any one or more of the provisions contained in this Amendment should be invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby, and the parties hereto shall enter into good faith negotiations to replace the invalid, illegal or unenforceable provision.

3. Governing Law, etc.. THIS AMENDMENT SHALL BE GOVERNED BY, AND CONSTRUED UNDER, THE LAWS OF THE STATE OF NEW YORK. The provisions in Sections 12.08(b) through (d) and Section 12.09 of the Amended Credit Agreement shall apply, *mutatis mutandis*, to this Amendment and the parties hereto.

4. Loan Document. This Amendment shall be deemed to be a Loan Document for all purposes of the Amended Credit Agreement and each other Loan Document.

5. Headings. Paragraph headings have been inserted in this Amendment as a matter of convenience for reference only and it is agreed that such paragraph headings are not a part of this Amendment and shall not be used in the interpretation of any provision of this Amendment.

6. Execution of Documents. The undersigned Lenders hereby authorize and instruct the Administrative Agent to execute and deliver this Amendment.

[*Signature Pages Follow*]

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be duly executed and delivered by their duly authorized officers as of the day and year first above written.

SUNRUN HERA PORTFOLIO 2015-A, LLC,
as Borrower

By: Sunrun Hera Portfolio 2015-B, LLC
Its: Sole Member

By: Sunrun Hera Holdco 2015, LLC
Its: Sole Member

By: Sunrun Inc.
Its: Sole Member

By: /s/ Robert Komin, Jr.
Name: Robert Komin, Jr.
Title: Chief Financial Officer

SUNRUN INC.,
as Guarantor

By: /s/ Robert Komin, Jr.
Name: Robert Komin, Jr.
Title: Chief Financial Officer

INVESTEC BANK PLC,
as Administrative Agent

By: /s/ Andrew Neill
Name: Andrew Neill
Title: Authorised Signatory

By: /s/ James Haggie
Name: James Haggie
Title: Authorised Signatory

INVESTEC BANK PLC,
as Issuing Bank

By: /s/ Andrew Neill
Name: Andrew Neill
Title: Authorised Signatory

By: /s/ James Haggie
Name: James Haggie
Title: Authorised Signatory

[Signature Page to Sixth Amendment (2nd A&R AF Credit Agreement)]

INVESTEC BANK PLC,
as Lender

By: /s/ Andrew Neill
Name: Andrew Neill
Title: Authorised Signatory

By: /s/ James Haggie
Name: James Haggie
Title: Authorised Signatory

SUNRUN GAIA PORTFOLIO 2016-A, LLC,
as Lender

By: Sunrun Gaia Holdco 2016, LLC
Its: Sole Member

By: Sunrun Inc.
Its: Sole Member

By: /s/ Robert Komin, Jr.
Name: Robert Komin, Jr.
Title: Chief Financial Officer

[Signature Page to Sixth Amendment (2nd A&R AF Credit Agreement)]

ABN AMRO CAPITAL USA LLC,
as Lender

By: /s/ Paul Snow
Name: Paul Snow
Title: Director

By: /s/ Remco Jongkind
Name: Remco Jongkind
Title: Managing Director

EAST WEST BANK,
as Lender

By: /s/ Christopher Simeone
Name: Christopher Simeone
Title: First Vice President

[Signature Page to Sixth Amendment (2nd A&R AF Credit Agreement)]

ING CAPITAL LLC,
as Lender

By: /s/ Thomas Cantello
Name: Thomas Cantello
Title: Managing Director

By: /s/ Stefano Palombo
Name: Stefano Palombo
Title: Vice President

[Signature Page to Sixth Amendment (2nd A&R AF Credit Agreement)]

KEYBANK NATIONAL ASSOCIATION,
as Lender

By: /s/ Lisa A. Ryder
Name: Lisa A. Ryder
Title: Senior Vice President

SUNTRUST BANK,
as Lender

By: /s/ Nina Johnson
Name: Nina Johnson
Title: Director

[Signature Page to Sixth Amendment (2nd A&R AF Credit Agreement)]

Exhibit 31.1

**CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002**

I, Lynn Jurich, certify that:

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

Date: May 8, 2019

By: /s/ Lynn Jurich

Lynn Jurich
Chief Executive Officer and Director
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION PURSUANT TO
RULES 13a-14(a) AND 15d-14(a) UNDER THE SECURITIES EXCHANGE ACT OF 1934,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Bob Komin, certify that:

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

Date: May 8, 2019

By: /s/ Bob Komin

Bob Komin
Chief Financial Officer
(Principal Accounting and Financial Officer)

Exhibit 32.1

Certifications Pursuant to
Section 906 of the Sarbanes-Oxley Act of 2002
(18 U.S.C. Section 1350)

Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, each of the undersigned officers of Sunrun Inc. (the "Company") hereby certifies that the Company's Quarterly Report on Form 10-Q for the period ended March 31, 2019 (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 8, 2019

By: /s/ Lynn Jurich

Lynn Jurich
Chief Executive Officer and Director
(Principal Executive Officer)

By: /s/ Bob Komin

Bob Komin
Chief Financial Officer
(Principal Accounting and Financial Officer)