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, 2021
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.)**

225 Bush Street, Suite 1400
San Francisco, California 94104
(Address of principal executive offices and Zip Code)

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

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

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 ☒

As of April 30, 2021, the number of shares of the registrant's common stock outstanding was 203,929,716.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

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 potential effects of the COVID-19 pandemic on our business and operations, results of operations and financial position;
- the expected benefits and potential value created by the merger with Vivint Solar for our stockholders;
- the inherent risks, costs and uncertainties associated with integrating the businesses in the merger with Vivint Solar successfully and risks of not achieving all or any of the anticipated benefits of the merger with Vivint Solar, or the risk that the anticipated benefits of the acquisition may not be fully realized or take longer to realize than expected;
- the amount of any costs, fees, expenses, impairments and charges relating to the merger with Vivint Solar;
- the availability of rebates, tax credits and other financial incentives, and decreases to federal solar tax credits;
- 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 and the impact of natural disasters and other events beyond our control, such as the COVID-19 pandemic;
- 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;
- our ability to realize the anticipated benefits of past or future investments, strategic transactions, or acquisitions, and risk that the integration of these acquisitions may disrupt our business and management;
- 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 customer data, as well as to maintain our brand;
- the willingness of and ability of our solar partners to fulfill their respective warranty and other contractual obligations;
- our ability to renew or replace expiring, cancelled or terminated Customer Agreements at favorable rates or on a long-term basis;
- the ability of our solar energy systems to operate or deliver energy for any reason, including if interconnection or transmission facilities on which we rely become unavailable;
- 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. These risks and uncertainties may be amplified by the ongoing COVID-19 pandemic, which has caused significant economic uncertainty and negative impacts on capital and credit markets. The extent to which the COVID-19 pandemic impacts our business, operations, and financial results, including the duration and magnitude of such effects, will depend on numerous factors, many of which are unpredictable, including, but not limited to, the duration and spread of the pandemic, its severity, the actions to contain the pandemic or treat its impact, and how quickly and to what extent normal economic and operating conditions can resume. 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.

SELECTED RISKS AFFECTING OUR BUSINESS

Investing in our common stock involves numerous risks, including the risks described in “Part II, Item 1A. Risk Factors”, of this Quarterly Report on Form 10-Q. Below are some of these risks, any one of which could materially adversely affect our business, financial condition, results of operations and prospects.

Selected Risks Related to the Impacts of COVID-19

- The COVID-19 pandemic has had and could continue to have an adverse impact on our business, operations and the markets and communities in which we operate. Efforts to mitigate or contain the pandemic and the resulting weakened economic conditions may disrupt and adversely affect our business.

Selected Risks Related to the Solar Industry

- The solar energy industry is an emerging market which is constantly evolving and may not develop to the size or at the rate we expect.
- 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.
- We face competition from traditional energy companies as well as solar and other renewable energy companies.

Selected Risks Related to Our Operating Structure and Financing Activities

- We need to raise capital to finance the continued growth of our operations and 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.
- Rising interest rates would adversely impact our business.
- We expect to incur substantially more debt in the future, which could intensify the risks to our business.

Selected Risks Related to Regulation and Policy

- We rely on net metering and related policies to offer competitive pricing to customers in all of our current markets, and changes to such policies may significantly reduce demand for electricity from our solar service offerings.
- Electric utility statutes and regulations and changes to such 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.
- Regulations and policies related to rate design could deter potential customers from purchasing our solar service offerings, reduce the value of the electricity our systems produce, and reduce any savings that our customers could realize from our solar service offerings.

Selected Risks Related to Our Business Operations

- Our growth depends in part on the success of our relationships with third parties, including our solar partners.
- We and our solar partners depend on a limited number of suppliers of solar panels, batteries, 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 may not realize the anticipated benefits of past or future investments, strategic transactions, or acquisitions, and integration of these acquisitions may disrupt our business and our management.
- 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 actual financial results may differ materially from any guidance we may publish from time to time.

Selected Risks Related to Taxes and Accounting

- Our ability to provide our solar service offerings to customers 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.

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

If we are unable to adequately address these and other risks we face, our business may be harmed.

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

	March 31, 2021	December 31, 2020
Assets		
Current assets:		
Cash	$ 649,493	$ 519,965
Restricted cash	163,792	188,095
Accounts receivable (net of allowances for credit losses of $ 6,015 and $4,861 as of March 31, 2021 and December 31, 2020, respectively)	125,499	95,141
Inventories	289,772	283,045
Prepaid expenses and other current assets	40,098	51,483
Total current assets	1,268,654	1,137,729
Restricted cash	148	148
Solar energy systems, net	8,460,443	8,202,788
Property and equipment, net	58,168	62,182
Intangible assets, net	17,109	18,262
Goodwill	4,280,169	4,280,169
Other assets	801,270	681,665
Total assets (1)	$ 14,885,961	$ 14,382,943
Liabilities and total equity		
Current liabilities:		
Accounts payable	$ 212,230	$ 207,441
Distributions payable to noncontrolling interests and redeemable noncontrolling interests	27,726	28,627
Accrued expenses and other liabilities	312,566	325,614
Deferred revenue, current portion	106,749	108,452
Deferred grants, current portion	8,238	8,251
Finance lease obligations, current portion	10,707	11,037
Non-recourse debt, current portion	103,498	195,036
Pass-through financing obligation, current portion	17,121	16,898
Total current liabilities	798,835	901,356
Deferred revenue, net of current portion	700,382	690,824
Deferred grants, net of current portion	210,863	213,269
Finance lease obligations, net of current portion	11,185	12,929
Convertible senior notes	388,960	—
Recourse debt	180,197	230,660
Non-recourse debt, net of current portion	4,601,570	4,370,449
Pass-through financing obligation, net of current portion	322,110	323,496
Other liabilities	193,168	268,684
Deferred tax liabilities	86,095	81,905
Total liabilities (1)	7,493,365	7,093,572
Commitments and contingencies (Note 15)		
Redeemable noncontrolling interests	536,294	560,461
Stockholders' equity:		
Preferred stock, $0.0001 par value—authorized, 200,000 shares as of March 31, 2021 and December 31, 2020; no shares issued and outstanding as of March 31, 2021 and December 31, 2020	—	—
Common stock, $0.0001 par value—authorized, 2,000,000 shares as of March 31, 2021 and December 31, 2020; issued and outstanding, 203,562 and 201,406 shares as of March 31, 2021 and December 31, 2020, respectively	20	20
Additional paid-in capital	6,169,247	6,107,802
Accumulated other comprehensive loss	(56,762)	(106,755)
Retained earnings	53,055	76,844
Total stockholders' equity	6,165,560	6,077,911
Noncontrolling interests	690,742	650,999
Total equity	6,856,302	6,728,910
Total liabilities, redeemable noncontrolling interests and total equity	$ 14,885,961	$ 14,382,943

1) The Company’s consolidated assets as of March 31, 2021 and December 31, 2020 include $7,574,849 and $7,190,866, 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, 2021 and December 31, 2020 of $7,038,553 and $6,748,127, respectively; cash as of March 31, 2021 and December 31, 2020 of $246,928 and $219,502, respectively; restricted cash as of March 31, 2021 and December 31, 2020 of $45,877 and $34,559, respectively; accounts receivable, net as of March 31, 2021 and December 31, 2020 of $51,552 and $35,152, respectively; inventories as of March 31, 2021 and December 31, 2020 of $40,843 and 23,306, respectively; prepaid expenses and other current assets as of March 31, 2021 and December 31, 2020 of $582 and $2,629, respectively; and other assets as of March 31, 2021 and December 31, 2020 of $150,514 and $127,591, respectively. The Company’s consolidated liabilities as of March 31, 2021 and December 31, 2020 include $2,017,294 and $1,857,967, respectively, in liabilities of VIEs whose creditors have no recourse to the Company. These liabilities include accounts payable as of March 31, 2021 and December 31, 2020 of $20,124 and $15,609, respectively; distributions payable to noncontrolling interests and redeemable noncontrolling interests as of March 31, 2021 and December 31, 2020 of $27,676 and $28,577, respectively; accrued expenses and other current liabilities as of March 31, 2021 and December 31, 2020 of $24,324 and $24,660, respectively; deferred revenue as of March 31, 2021 and December 31, 2020 of $552,553 and $538,067, respectively; deferred grants as of March 31, 2021 and December 31, 2020 of $26,594 and $26,898, respectively; non-recourse debt as of March 31, 2021 and December 31, 2020 of $1,342,007 and $1,192,411, respectively; and other liabilities as of March 31, 2021 and December 31, 2020 of $24,016 and $31,745, 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, 2021	Three Months Ended March 31, 2020
Revenue:		
Customer agreements and incentives	$ 174,596	$ 99,124
Solar energy systems and product sales	160,198	111,607
Total revenue	334,794	210,731
Operating expenses:		
Cost of customer agreements and incentives	160,277	78,277
Cost of solar energy systems and product sales	134,082	91,598
Sales and marketing	126,113	70,270
Research and development	5,872	4,046
General and administrative	85,630	28,074
Amortization of intangible assets	1,345	1,483
Total operating expenses	513,319	273,748
Loss from operations	(178,525)	(63,017)
Interest expense, net	(74,270)	(49,924)
Other income, net	34,347	50
Loss before income taxes	(218,448)	(112,891)
Income tax benefit	(14,126)	(3,342)
Net loss	(204,322)	(109,549)
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(180,533)	(81,590)
Net loss attributable to common stockholders	$ (23,789)	$ (27,959)
Net loss per share attributable to common stockholders		
Basic	$ (0.12)	$ (0.23)
Diluted	$ (0.12)	$ (0.23)
Weighted average shares used to compute net loss per share attributable to common stockholders		
Basic	202,562	119,220
Diluted	202,562	119,220

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

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

	Three Months Ended March 31,	
	2021	**2020**
Net loss attributable to common stockholders	$ (23,789)	$ (27,959)
Unrealized gain (loss) on derivatives, net of income taxes	47,133	(72,543)
Adjustment for net loss on derivatives recognized into earnings, net of income taxes	2,860	245
Other comprehensive income (loss)	49,993	(72,298)
Comprehensive income (loss)	$ 26,204	$ (100,257)

Sunrun Inc.
Consolidated Statements of Redeemable Noncontrolling Interests and Equity
Three Months Ended March 31, 2021 and 2020
(In Thousands)
(Unaudited)

	Three Months Ended March 31, 2021								
	Redeemable Noncontrolling Interests	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
		Shares	Amount						
Balance at December 31, 2020	$ 560,461	201,406	$ 20	$ 6,107,802	$ (106,755)	$ 76,844	$ 6,077,911	$ 650,999	$ 6,728,910
Exercise of stock options	—	898	—	8,541	—	—	8,541	—	8,541
Issuance of restricted stock units	—	1,258	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	80,632	—	—	80,632	—	80,632
Contributions from noncontrolling interests and redeemable noncontrolling interests	(23,691)	—	—	—	—	—	—	271,384	271,384
Distributions to noncontrolling interests and redeemable noncontrolling interests	(16,069)	—	—	—	—	—	—	(30,943)	(30,943)
Net (loss) income	20,165	—	—	—	—	(23,789)	(23,789)	(200,698)	(224,487)
Capped call transaction	—	—	—	(28,000)	—	—	(28,000)	—	(28,000)
Acquisition of noncontrolling interests	(4,572)	—	—	272	—	—	272	—	272
Other comprehensive income, net of taxes	—	—	—	—	49,993	—	49,993	—	49,993
Balance at March 31, 2021	$ 536,294	203,562	$ 20	$ 6,169,247	$ (56,762)	$ 53,055	$ 6,165,560	$ 690,742	$ 6,856,302

	Three Months Ended March 31, 2020								
	Redeemable Noncontrolling Interests	Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Retained Earnings	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
		Shares	Amount						
Balance at December 31,2019	$ 306,565	118,451	$ 12	$ 766,006	$ (52,753)	$ 251,466	$ 964,731	$ 366,701	$ 1,331,432
Cumulative effect of adoption of new ASU (No. 2016-13)	—	—	—	—	—	(1,228)	(1,228)	—	(1,228)
Exercise of stock options	—	1,009	—	5,949	—	—	5,949	—	5,949
Issuance of restricted stock units, net of tax withholdings	—	663	—	(3,530)	—	—	(3,530)		(3,530)
Stock-based compensation	—	—	—	6,808	—	—	6,808		6,808
Contributions from noncontrolling interests and redeemable noncontrolling interests	150,904	—	—	—	—	—	—	20,000	20,000
Distributions to noncontrolling interests and redeemable noncontrolling interests	(7,084)	—	—	—	—	—	—	(13,612)	(13,612)
Net loss	(34,692)	—	—	—	—	(27,959)	(27,959)	(46,898)	(74,857)
Other comprehensive loss, net of taxes	—	—	—	—	(72,298)	—	(72,298)	—	(72,298)
Balance at March 31, 2020	$ 415,693	120,123	$ 12	$ 775,233	$ (125,051)	$ 222,279	$ 872,473	$ 326,191	$ 1,198,664

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

	Three Months Ended March 31, 2021	Three Months Ended March 31, 2020
Operating activities:		
Net loss	$ (204,322)	$ (109,549)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization, net of amortization of deferred grants	91,955	51,021
Deferred income taxes	(14,126)	(3,342)
Stock-based compensation expense	78,029	7,309
Bonus liability converted to RSUs	—	11,636
Interest on pass-through financing obligations	5,394	5,877
Reduction in pass-through financing obligations	(10,219)	(9,689)
Other noncash items	(28,451)	11,442
Changes in operating assets and liabilities:		
Accounts receivable	(32,311)	11,044
Inventories	(6,727)	2,957
Prepaid and other assets	(88,469)	1,115
Accounts payable	1,479	(55,604)
Accrued expenses and other liabilities	14,113	(51,667)
Deferred revenue	8,008	10,565
Net cash used in operating activities	(185,647)	(116,885)
Investing activities:		
Payments for the costs of solar energy systems	(357,012)	(207,360)
Purchases of property and equipment, net	(39)	(3,105)
Net cash used in investing activities	(357,051)	(210,465)
Financing activities:		
Proceeds from issuance of recourse debt, net of capped call transaction	579,694	43,475
Repayment of recourse debt	(258,160)	(45,000)
Proceeds from issuance of non-recourse debt	431,633	191,751
Repayment of non-recourse debt	(293,409)	(12,997)
Payment of debt fees	(15,360)	—
Proceeds from pass-through financing and other obligations	2,486	1,762
Payment of finance lease obligations	(3,087)	(2,953)
Contributions received from noncontrolling interests and redeemable noncontrolling interests	247,693	170,904
Distributions paid to noncontrolling interests and redeemable noncontrolling interests	(47,913)	(18,992)
Acquisition of noncontrolling interest	(4,195)	—
Net proceeds related to stock-based award activities	8,541	2,419
Net cash provided by financing activities	647,923	330,369
Net change in cash and restricted cash	105,225	3,019
Cash and restricted cash, beginning of period	708,208	363,229
Cash and restricted cash, end of period	$ 813,433	$ 366,248
Supplemental disclosures of cash flow information		
Cash paid for interest	$ 55,910	$ 28,435
Cash paid for income 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	$ 60,770	$ 43,664
Right-of-use assets obtained in exchange for new finance lease liabilities	$ 1,090	$ 180

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

Sunrun Inc.
Notes to Consolidated Financial Statements
(Unaudited)

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 energy 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, 2020.

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. Beginning October 8, 2020, the Company's consolidated subsidiaries also included Vivint Solar, Inc. ("Vivint Solar"). 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 (“ASC 810”) *Consolidation*, the Company consolidates any VIE of which it is the primary beneficiary. The primary beneficiary, as defined in ASC 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.

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 fair value of contingent consideration, the fair value of assets acquired and liabilities assumed in a business combination, 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 (including, but not limited to homeowners) for each group of similar products and services is as follows (in thousands):

	Three Months Ended March 31,	
	2021	2020
Customer agreements	$ 157,830	$ 94,253
Incentives	16,766	4,871
Customer agreements and incentives	174,596	99,124
Solar energy systems	89,050	71,277
Products	71,148	40,330
Solar energy systems and product sales	160,198	111,607
Total revenue	$ 334,794	$ 210,731

Revenue from Customer Agreements includes payments by customers for the use of the 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 commercial investment tax credits ("Commercial ITCs") and solar renewable energy credits ("SRECs").

Cash and Restricted Cash

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

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):

	Three Months Ended March 31,	
	2021	2020
Beginning of period:		
Cash	$ 519,965	$ 269,577
Restricted cash, current and long-term	188,243	93,652
Total	$ 708,208	$ 363,229
End of period:		
Cash	$ 649,493	$ 286,418
Restricted cash, current and long-term	163,940	79,830
Total	$ 813,433	$ 366,248

As a result of the acquisition of Vivint Solar on October 8, 2020, cash and restricted cash increased by $ 537.2 million.

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.

Accounts receivable, net, consists of the following (in thousands):

	March 31, 2021	December 31, 2020
Customer receivables	$ 125,583	$ 97,723
Other receivables	1,766	710
Rebates receivable	4,165	1,569
Allowance for credit losses	(6,015)	(4,861)
Total	$ 125,499	$ 95,141

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 $729.5 million as of December 31, 2019. Deferred revenue consists of the following (in thousands):

	March 31, 2021	December 31, 2020
Under Customer Agreements:		
Payments received, net	$ 616,085	$ 614,906
Financing component balance	53,541	51,835
	669,626	666,741
Under SREC contracts:		
Payments received, net	130,603	126,793
Financing component balance	6,902	5,742
	137,505	132,535
Total	$ 807,131	$ 799,276

In the three months ended March 31, 2021 and 2020, the Company recognized revenue of $ 18.8 million and $17.4 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 $11.3 million as of March 31, 2021, 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.

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.

The Company's financial instruments include cash, receivables, accounts payable, accrued expenses, distributions payable to noncontrolling interests, derivatives, contingent consideration, and recourse and non-recourse debt.

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 energy system and revenue from the sales of 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. For Customer Agreements that include a fixed fee per month which entitles the customer to any and all electricity generated by the system, and for which the Company’s obligation is to provide continuous access to a functioning solar energy system, the Company recognizes revenue evenly over the time that it satisfies its performance obligations, which is over the initial term of the Customer Agreements. For Customer Agreements that charge a fixed price per kilowatt hour, and for which the Company’s obligation is the provision of electricity from a solar energy system, revenue is recognized based on the actual amount of power generated at rates specified under the contracts. Customer Agreements typically have an initial term of 20 or 25 years. After the initial contract term, Customer Agreements typically automatically renew on an annual basis.

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 or upon reporting of the electricity generation. For pass-through financing obligation Funds, the value attributable to the monetization of Commercial ITCs are recognized in the period a solar energy 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 liquidating 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, revenue is recognized when the solar energy system passes inspection by the authority having jurisdiction, which inspection generally occurs after installation but prior to PTO, at which time the Company has met the performance obligation in the contract. For solar energy system sales that include delivery obligations up until interconnection to the local power grid with permission to operate, the Company recognizes revenue at PTO. The Company’s installation Projects are typically completed in less than twelve months.

Product sales consist of solar panels, racking systems, inverters, other solar energy products sold to resellers, roof repair, fees for extended services on solar energy systems sold to customers and customer leads. Product sales revenue is recognized at the time when control is transferred, upon shipment, or as services are delivered. Customer lead revenue, included in product sales, 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, 2020:

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 that 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. The Company adopted ASU No. 2016-13 effective January 1, 2020, using a modified retrospective transition method, which resulted in a cumulative-effect adjustment of $1.7 million for the establishment of a credit loss allowance for unbilled receivables related to Customer Agreements, as reflected in its consolidated statement of redeemable noncontrolling interests and stockholders' equity.

Accounting standards adopted January 1, 2021:

In January 2021, the FASB issued ASU No. 2021-01, *Reference Rate Reform (Topic 848): Scope*, which permits entities to elect certain optional expedients and exceptions when accounting for derivative contracts and certain hedging relationships affected by reference rate reform. This ASU is effective upon issuance and can generally be applied through December 31, 2022. The Company adopted ASU 2019-12 effective January 1, 2021, and there was no impact to its consolidated financial statements.

In November 2019, the FASB issued ASU No. 2019-12, *Income Taxes (Topic 740)*, which simplifies the accounting for income taxes, primarily by eliminating certain exceptions to the guidance in ASC 740. The Company adopted ASU 2019-12 effective January 1, 2021, and there was no impact to its consolidated financial statements.

In August 2020, the FASB issued ASU No. 2020-06, *Debt—Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40)*, simplifies the accounting for convertible instruments and the application of the derivatives scope exception for contracts in an entity’s own equity. This ASU is effective for fiscal periods beginning after December 15, 2021. The Company adopted ASU 2020-06 effective January 1, 2021, and applied this guidance to the convertible senior notes issued in January 2021, see Note 8 *Indebtedness*, which allowed the Company to account for the notes and their underlying conversion feature as a liability. There was no other impact to the Company’s consolidated financial statements as a result of this adoption.

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform (Topic 848)*, *Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, which provides optional expedients and exceptions for applying GAAP to contracts, hedging relationships, and other transactions affected by reference rate reform if certain criteria are met. The amendments apply only to contracts, hedging relationships, and other transactions that reference LIBOR or other reference rates that are expected to be discontinued because of reference rate reform. This ASU is available for adoption as of the beginning of the interim period that includes March 12, 2020 through

December 31, 2022, as contract modifications or hedging relationships entered into or evaluated after December 31, 2022 are excluded unless an entity has elected certain optional expedients for and that are retained through the end of the hedging relationship. For the Company's cash flow hedges in which the designated hedged risk is LIBOR or another rate that is expected to be discontinued, the Company has adopted the portion of the guidance that allows it to assert that it remains probable that the hedged forecasted transaction will occur. The Company adopted the remainder of this guidance effective January 1, 2021, and there was no impact to its consolidated financial statements.

Note 3. Fair Value Measurement

At March 31, 2021 and December 31, 2020, 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, 2021		December 31, 2020	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Recourse debt	$ 569,156	$ 531,180	$ 230,660	$ 230,660
Senior debt	1,658,889	1,663,238	1,722,730	1,733,767
Subordinated debt	959,565	975,368	934,386	958,880
Securitization debt	2,086,615	2,164,149	1,908,369	2,012,283
Total	$ 5,274,225	$ 5,333,935	$ 4,796,145	$ 4,935,590

At March 31, 2021 and December 31, 2020, the fair value of certain recourse debt and certain senior, subordinated and securitization loans approximate their carrying values because their interest rates are variable rates that approximate rates currently available to the Company. At March 31, 2021 and December 31, 2020, 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.

At March 31, 2021 and December 31, 2020, financial instruments measured at fair value on a recurring basis, based upon the fair value hierarchy, are as follows (in thousands):

	March 31, 2021			
	Level 1	Level 2	Level 3	Total
Derivative assets:				
Interest rate swaps	$ —	$ 32,019	$ —	$ 32,019
Total	$ —	$ 32,019	$ —	$ 32,019
Derivative liabilities:				
Interest rate swaps	$ —	$ 102,220	$ —	$ 102,220
Total	$ —	$ 102,220	$ —	$ 102,220
Contingent consideration:				
Contingent consideration	$ —	$ —	$ 3,453	$ 3,453
Total	$ —	$ —	$ 3,453	$ 3,453

	December 31, 2020			
	Level 1	Level 2	Level 3	Total
Derivative assets:				
Interest rate swaps	$ —	$ 5,218	$ —	$ 5,218
Total	$ —	$ 5,218	$ —	$ 5,218
Derivative liabilities:				
Interest rate swaps	$ —	$ 175,444	$ —	$ 175,444
Total	$ —	$ 175,444	$ —	$ 175,444
Contingent consideration:				
Contingent consideration:	$ —	$ —	$ 4,653	$ 4,653
Total	$ —	$ —	$ 4,653	$ 4,653

The above balances are recorded in other assets and other liabilities, respectively, in the consolidated balance sheets, except for $ 0.1 million as of December 31, 2020, which is recorded in prepaid and other assets and except for $24.7 million and $23.9 million as of March 31, 2021 and December 31, 2020, respectively, which is recorded in accrued expenses and other liabilities.

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.

The Company recorded contingent consideration in connection with the July 2019 acquisition of a specific customer pipeline and assembled workforce from Omni Energy, LLC, which is dependent on the achievement of specified deployment milestones associated with the number of solar energy systems installed through 2022. The Company determined the fair value of the contingent consideration using a probability-weighted expected return methodology that considers the timing and probabilities of achieving these milestones and uses discount rates that reflect the appropriate cost of capital. Contingent consideration was valued with Level 3 inputs. The Company reassesses the valuation assumptions each reporting period, with any changes in the fair value accounted for in the consolidated statements of operations.

The following table summarizes the activity of Level 3 contingent consideration balance in the three months ended March 31, 2021 (in thousands):

Balance at December 31, 2020	$ 4,653
Change in fair value recognized in earnings within sales and marketing expense	(1,200)
Balance at March 31, 2021	$ 3,453

Note 4. Inventories

Inventories consist of the following (in thousands):

	March 31, 2021	December 31, 2020
Raw materials	$ 255,699	$ 241,095
Work-in-process	34,073	41,950
Total	$ 289,772	$ 283,045

The Internal Revenue Service ("IRS") provided taxpayers a safe harbor opportunity to retain access to the pre-step down tax credit amounts through specific rules released in Notice 2018-59. The Company has sought to avail itself of the safe harbor by incurring certain costs and taking title in the year the Company took delivery, for tax purposes, of the underlying inventory and/or by performing physical work on components that will be installed in solar facilities. As of March 31, 2021 and December 31, 2020, there was approximately $85.3 million and $73.0 million, respectively, related to the safe harbor program within raw materials.

Note 5. Solar Energy Systems, net

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

	March 31, 2021	December 31, 2020
Solar energy system equipment costs	$ 8,127,259	$ 7,839,427
Inverters	915,778	883,785
Total solar energy systems	9,043,037	8,723,212
Accumulated depreciation and amortization	(1,000,558)	(914,551)
Construction-in-progress	417,964	394,127
Total solar energy systems, net	$ 8,460,443	$ 8,202,788

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 $87.4 million and $46.4 million for the three months ended March 31, 2021 and 2020, respectively. The depreciation expense was reduced by the amortization of deferred grants of $2.1 million and $2.0 million for three months ended March 31, 2021 and 2020, respectively.

Note 6. Other Assets

Other assets consist of the following (in thousands):

	March 31, 2021	December 31, 2020
Costs to obtain contracts - customer agreements	$ 455,420	$ 377,839
Costs to obtain contracts - incentives	2,481	2,481
Accumulated amortization of costs to obtain contracts	(55,689)	(51,365)
Unbilled receivables	163,845	150,603
Allowance for credit losses on unbilled receivables	(1,874)	(1,731)
Operating lease right-of-use assets	76,763	81,516
Equity method investment	62,927	65,356
Other assets	97,397	56,966
Total	$ 801,270	$ 681,665

The Company recorded amortization of costs to obtain contracts of $ 4.2 million and $3.4 million for the three months ended March 31, 2021 and 2020, 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 over the term of the Customer Agreement. The amount of unbilled receivables increases while cumulative billings for an individual Customer Agreement are less than the cumulative revenue recognized for that Customer Agreement. Conversely, the amount of unbilled receivables decreases when the actual cumulative billings becomes higher than the cumulative 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. As a result of the adoption of ASU No. 2016-13, an allowance for credit loss on unbilled receivables was established as of January 1, 2020. The Company applies an estimated loss-rate in order to determine the current expected credit loss for unbilled receivables. The estimated loss-rate is determined by analyzing historical credit losses, residential first and second mortgage foreclosures and consumers' utility default rates, as well as current economic conditions. The Company reviews individual customer collection status of electricity billings to determine whether the unbilled receivables for an individual customer should be written off, including the possibility of a service transfer to a potential new homeowner.

Note 7. Accrued Expenses and Other Liabilities

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

	March 31, 2021	December 31, 2020
Accrued employee compensation	$ 104,413	$ 91,115
Operating lease obligations	20,613	21,461
Accrued interest	35,287	38,340
Accrued professional fees	15,817	15,834
Other accrued expenses	136,436	158,864
Total	$ 312,566	$ 325,614

Note 8. Indebtedness

As of March 31, 2021, debt consisted of the following (in thousands, except percentages):

	March 31, 2021	December 31, 2020	Unused Borrowing Capacity (1)	Weighted Average Interest Rate at March 31, 2021 (2)	Weighted Average Interest Rate at December 31, 2020 (2)	Contractual Interest Rate (3)	Contractual Maturity Date
Recourse debt							
Bank line of credit (4)	$ 180,196	$ 230,660	$ 32,500	3.36%	3.53%	LIBOR +3.25%	April 2022
0% Convertible Senior Notes (5)	400,000	—	—	—%	N/A	—%	February 2026
Total recourse debt	580,196	230,660	32,500				
Non-recourse debt (6)							
Senior revolving and delayed draw loans (7)(8)	731,300	587,600	97,050	2.78%	2.85%	LIBOR +2.50% - 3.25%	March 2023 - October 2027
Senior non-revolving loans	879,583	1,087,386	—	3.85%	3.68%	4.50% - 6.50%; LIBOR +2.125% - 2.25%	April 2022 - November 2040
Subordinated revolving and delayed draw loans	139,053	282,722	24,700	9.11%	8.43%	8.50% - 10.00%; LIBOR +9.00%	March 2024 - October 2032
Subordinated loans (9)	836,882	668,642	—	8.64%	8.76%	8.00% - 10.00%; LIBOR +5.00% - 6.75%	March 2023 - January 2042
Securitized loans	2,069,043	1,885,981	—	3.90%	4.18%	2.33% - 5.31%	August 2023 - February 2055
Total non-recourse debt	4,655,861	4,512,331	121,750				
Total recourse and non-recourse debt	5,236,057	4,742,991	154,250				
Plus: Debt premium	106,448	108,778	—				
Less: Debt discount	(68,280)	(55,624)	—				
Total debt, net	$ 5,274,225	$ 4,796,145	$ 154,250				

(1) Represents the additional amount the Company could borrow, if any, based on the state of its existing assets as of March 31, 2021.

(2) Reflects weighted average contractual, unhedged rates. See Note 9, *Derivatives* for hedge rates.

(3) Ranges shown reflect fixed interest rate and rates using LIBOR as applicable.

(4) This syndicated working capital facility with banks has a total commitment up to $ 250.0 million and 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 this facility bear interest at LIBOR +3.25% per annum or 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%. Subject to various restrictive covenants, such as the completion and presentation of audited consolidated financial statements, maintaining a minimum unencumbered liquidity of at least $25.0 million at the end of each calendar month, maintaining quarter end liquidity to be at least $ 35.0 million, and maintaining a minimum interest coverage ratio of 3.50 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, 2021.

(5) These convertible senior notes ("Notes") will not bear regular interest, and the principal amount of the notes will not accrete. The Notes may bear special interest under specified circumstances relating to the Company’s failure to comply with its reporting obligations under the Indenture or if the Notes are not freely tradeable as required by the Indenture. The Notes will mature on February 1, 2026, unless earlier repurchased by the Company, redeemed by the Company or converted pursuant to their terms. The initial conversion rate of the Notes is 8.4807 shares of the Company’s common stock, par value $0.0001 per share, per $1,000 principal amount of Notes, which is equivalent to an initial conversion price of approximately $117.91 per share. The conversion rate will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for any accrued and unpaid special interest. In addition, upon the occurrence of a make-whole fundamental change or an issuance of a notice of redemption, the Company will, in certain circumstances, increase the conversion rate by a number of additional shares for a holder that elects to convert its Notes in connection with such make-whole fundamental change or notice of redemption. The debt discount recorded on the Notes is being amortized to interest expense at an effective interest rate of 0.57%. As of March 31, 2021, $0.4 million of the debt discount was amortized to interest expense. In connection with the offering of the Notes, the Company entered into privately negotiated capped call transactions (“Capped Calls”) with certain of the initial purchasers and/or their respective affiliates at a cost of approximately $28.0 million. The Capped Calls are classified as equity and were recorded to additional paid-in-capital within stockholders’ equity as of March 31, 2021. The Capped Calls each have an initial strike price of approximately $117.91 per share, subject to certain adjustments, which corresponds to the initial conversion price of the Notes. The Capped Calls have initial cap prices of $157.22 per share. The Capped Calls cover, subject to anti-dilution adjustments, approximately 3.4 million shares of common stock. The Capped Calls are expected generally to reduce the potential dilution to the common stock upon any conversion of Notes and/or offset any cash payments the Company is required to make in excess of the principal amount of the Notes, as the case may be, in the event the market price per share of common stock, as measured under the Capped Calls, is greater than the strike price of the Capped Call, with such offset subject to a cap. If, however, the market price per share of the common stock, as measured under the Capped Calls, exceeds the cap price of the Capped Calls, there would be dilution and/or there would not be an offset of such potential cash payments, in each case, to the extent that the then-market price per share of the common stock exceeds the cap price. The final components of the Capped Calls are scheduled to expire on January 29, 2026.

(6) Certain loans under these categories are part of project equity transactions.

(7) Under a loan within this category, the Company may incur up to an aggregate principal amount of $ 100.0 million in revolver borrowings. Borrowings under this revolving loan may be designated as base rate loans or LIBOR loans, subject to certain terms and conditions. Base rate loans accrue interest at a rate per year equal to 2.25% plus the highest of (i) the federal funds rate plus 0.50%, (ii) Bank of America, N.A.’s published “prime rate,” and (iii) LIBOR rate plus 1.00%, subject to a 0.00% floor. LIBOR loans accrue interest at a rate per annum equal to 3.25 % plus the fluctuating rate of interest equal to LIBOR or a comparable successor rate approved by the administrative agent, subject to a 0.00% floor. In addition to customary covenants for these type of facilities, the Company is subject to financial covenants and is required to have unencumbered cash and cash equivalents at the end of each fiscal quarter of at least the greater of (i) $30.0 million and (ii) the amount of unencumbered liquidity to be maintained by Vivint Solar, Inc., a wholly owned subsidiary of the Company, in accordance with any loan documents governing recourse debt facilities of Vivint Solar, Inc. As of March 31, 2021, Vivint Solar, Inc. did not have any recourse debt facilities other than the facility described in this paragraph.

(8) Pursuant to the terms of the aggregation facilities within this category the Company may draw up to an aggregate principal amount of $ 1.1 billion in revolver borrowings depending on the available borrowing base at the time.

(9) A loan under this category with an outstanding balance of $ 124.1 million as of March 31, 2021 contains a put option that can be exercised beginning in 2036 that would require the Company to pay off the entire loan on November 30, 2037.

Senior and Subordinated Debt Facilities

Each of the Company's senior and subordinated debt facilities contain 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 or inventories less certain operating, maintenance and other expenses which are available to the borrower after distributions to tax equity investors, where applicable. Under the terms of these facilities, the Company's subsidiaries pay interest and principal from the net cash flows available to the subsidiaries. The Company was in compliance with all debt covenants as of March 31, 2021.

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. Under the terms of these loans, the Company's subsidiaries pay interest and principal from the net cash flows available to the subsidiaries. The Company was in compliance with all debt covenants as of March 31, 2021.

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.

Certain 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, 2021, the majority of hedge relationships on the Company’s interest rate swaps have been assessed as highly effective as the quarterly assessment performed determined changes in cash flows of the derivative instruments have been highly effective in offsetting the changes in the cash flows of the hedged items and are expected to be highly effective in the future. 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 affect earnings. To the extent that the hedge relationships are not effective, changes in the fair value of these derivatives are recorded in other expenses, net in the Company's statements of operations on a prospective basis.

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, 2021, 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	Notional Amount (1)
Assets:				
Derivatives designated as hedging instruments	$ 21,998	$ (235)	$ 21,763	$ 323,303
Derivatives not designated as hedging instruments	10,021	—	10,021	165,696
Liabilities:				
Derivatives designated as hedging instruments	$ (84,940)	$ 235	$ (84,705)	$ 1,320,017
Derivatives not designated as hedging instruments	(17,280)	—	(17,280)	352,381
Total	$ (70,201)	$ —	$ (70,201)	$ 2,161,397

(1) Comprised of 52 interest rate swaps which effectively fix the LIBOR portion of interest rates on outstanding balances of certain loans under the senior and securitized sections of the debt footnote table (see Note 8, *Indebtedness*) at 0.57% to 3.37% per annum. These swaps mature from August 31, 2022 to January 31, 2043.

As of December 31, 2020, 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	Notional Amount
Assets:				
Derivatives designated as hedging instruments	$ 4,293	$ (6)	$ 4,287	$ 191,737
Derivatives not designated as hedging instruments	925	(13)	912	166,138
Liabilities:				
Derivatives designated as hedging instruments	(165,996)	6	(165,990)	1,796,596
Derivatives not designated as hedging instruments	(9,448)	13	(9,435)	190,530
Total	$ (170,226)	$ —	$ (170,226)	$ 2,345,001

The losses (gains) on derivatives designated as cash flow hedges recognized into OCI, before tax effect, consisted of the following (in thousands):

	Three months ended March 31,	
	2021	2020
Derivatives designated as cash flow hedges:		
Interest rate swaps	$ (64,303)	$ 99,049

The losses (gains) on derivatives financial instruments recognized into the consolidated statements of operations, before tax effect, consisted of the following (in thousands):

	Three months ended March 31,			
	2021		2020	
	Interest expense, net	Other expense, net	Interest expense, net	Other expense, net
Derivatives designated as cash flow hedges:				
Interest rate swaps				
Losses (gains) reclassified from AOCI into income	$ 3,902	$ —	$ 335	$ —
Derivatives not designated as cash flow hedges:				
Interest rate swaps				
Gains recognized into income	—	(32,614)	—	—
Total losses (gains)	$ 3,902	$ (32,614)	$ 335	$ —

All amounts in Accumulated other comprehensive income (loss) ("AOCI") in the consolidated statements of redeemable noncontrolling interests and equity relate to derivatives, refer to the consolidated statements of comprehensive (loss) income. The net (loss) gain on derivatives includes the tax effect of $18.2 million and $26.4 million for three months ended March 31, 2021 and 2020, respectively.

During the next 12 months, the Company expects to reclassify $ 22.0 million of net losses on derivative instruments from accumulated other comprehensive income to earnings. There were ten undesignated derivative instruments recorded by the Company as of March 31, 2021.

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 Commercial 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, and one fund with an initial term of 7 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, 2021 and December 31, 2020, the cost of the solar energy systems placed in service under the financing obligation arrangements was $714.4 million and $715.5 million, respectively. The accumulated depreciation related to these assets as of March 31, 2021 and December 31, 2020 was $126.7 million and $120.2 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, or over 7 years in the case of one fund, by customer payments under the Customer Agreements, U.S. Treasury grants (where applicable) and proceeds from the contracted resale of SRECs as they are received by the investor. In addition, funds paid for the Commercial ITC value upfront are initially recorded as a refund liability and recognized as revenue as the associated solar energy system reaches PTO. The Commercial ITC value is reflected in 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, 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 the majority of the 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 in applicable funds, 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.*

Note 11. VIE Arrangements

The Company consolidated various VIEs at March 31, 2021 and December 31, 2020. The carrying amounts and classification of the VIEs' assets and liabilities included in the consolidated balance sheets are as follows (in thousands):

	March 31, 2021	December 31, 2020
Assets		
Current assets		
Cash	$ 246,928	$ 219,502
Restricted cash	45,877	34,559
Accounts receivable, net	51,552	35,152
Inventories	40,843	23,306
Prepaid expenses and other current assets	582	2,629
Total current assets	385,782	315,148
Solar energy systems, net	7,038,553	6,748,127
Other assets	150,514	127,591
Total assets	$ 7,574,849	$ 7,190,866
Liabilities		
Current liabilities		
Accounts payable	$ 20,124	$ 15,609
Distributions payable to noncontrolling interests and redeemable noncontrolling interests	27,676	28,577
Accrued expenses and other liabilities	24,324	24,660
Deferred revenue, current portion	46,043	44,906
Deferred grants, current portion	1,005	1,007
Non-recourse debt, current portion	33,966	31,594
Total current liabilities	153,138	146,353
Deferred revenue, net of current portion	506,510	493,161
Deferred grants, net of current portion	25,589	25,891
Non-recourse debt, net of current portion	1,308,041	1,160,817
Other liabilities	24,016	31,745
Total liabilities	$ 2,017,294	$ 1,857,967

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 seven 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.

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 fourteen and fifteen Funds at March 31, 2021 and December 31, 2020, respectively, where the carrying value has been adjusted to the redemption value.

There was a $70.3 million difference between the fair value of the noncontrolling interests and redeemable noncontrolling interests acquired at the date of the merger with Vivint Solar and the noncontrolling interests and redeemable noncontrolling interests balances as calculated using the HLBV method of accounting, which will remain in NCI until a realization event occurs. As of March 31, 2021, the remaining trapped value related to noncontrolling interests and redeemable noncontrolling interests is now $129.4 million given the occurrence of certain realization events subsequent to the date of merger.

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, 2021 (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, 2020	8,019	$ 10.35	6.87	$ 473,371
Granted	236	53.48		
Exercised	(898)	8.81		
Cancelled	(172)	10.16		
Outstanding at March 31, 2021	7,185	$ 11.96	6.71	$ 348,628
Options vested and exercisable at March 31, 2021	4,097	$ 6.81	5.27	$ 219,890

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, 2021 (shares in thousands):

	Number of Awards	Weighted Average Grant Date Fair Value
Unvested balance at December 31, 2020	7,103	$ 40.17
Granted	226	63.85
Issued	(1,258)	33.54
Cancelled / forfeited	(196)	20.60
Unvested balance at March 31, 2021	5,875	$ 43.13

Warrants for Strategic Partners

During the quarter ended March 31, 2021,the Company issued warrants exercisable for up to 316,177 shares of its common stock to certain strategic partners (calculated using the closing stock price of $60.48 on March 31, 2021) and recognized compensation cost of $ 1.4 million based on time and performance milestones achieved during the quarter. The exercise price of the warrants is $0.01 per share, and no exercises occurred during the quarter ended March 31, 2021.

Employee Stock Purchase Plan

Under the Company's 2015 Employee Stock Purchase Plan ("ESPP"), 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,	
	2021	2020
Cost of customer agreements and incentives	$ 2,232	$ 1,946
Cost of solar energy systems and product sales	1,304	673
Sales and marketing	27,106	3,478
Research and development	676	1,075
General and administration	46,711	11,773
Total	$ 78,029	$ 18,945

During the three months ended March 31, 2021, stock-based compensation expense capitalized to solar energy systems, net in the Company’s consolidated balance sheet was $2.6 million.

Note 14. Income Taxes

The income tax benefit (expense) rate for the three months ended March 31, 2021 and 2020 was 6.5% and 2.9%, respectively. The differences between the actual consolidated effective income tax rate and the U.S. federal statutory rate were primarily attributable to the allocation of losses on noncontrolling interests and an increase in stock-based compensation deductions.

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.

Uncertain Tax Positions

As a result of the acquisition of Vivint Solar, Inc., the Company established an unrecognized tax benefit of $ 1.0 million as of March 31, 2021 and December 31, 2020 that, if recognized, would impact the Company's effective tax rate.

Note 15. Commitments and Contingencies

Letters of Credit

As of March 31, 2021 and December 31, 2020, the Company had $ 27.7 million and $37.0 million, respectively, of unused letters of credit outstanding, which carry fees of 2.13% - 3.25% per annum and 2.13% - 3.25% per annum, respectively.

Guarantees

Certain tax equity funds and debt facilities require the Company to maintain an aggregate amount of $ 30.0 million of unencumbered cash and cash equivalents at the end of each month.

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,	
	2021	2020
Finance lease cost:		
Amortization of right-of-use assets	$ 3,198	$ 2,657
Interest on lease liabilities	271	217
Operating lease cost	3,010	3,126
Short-term lease cost	3,528	120
Variable lease cost	1,618	810
Sublease income	(195)	(160)
Total lease cost	$ 11,430	$ 6,770

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

	Three Months Ended March 31,	
	2021	2020
Cash paid for amounts included in the measurement of lease liabilities		
Operating cash flows from operating leases	$ 6,740	$ 2,575
Operating cash flows from finance leases	268	221
Financing cash flows from finance leases	3,087	2,953
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	313	32
Finance leases	1,090	180
Weighted average remaining lease term (years):		
Operating leases	7.15	4.99
Finance leases	2.38	2.70
Weighted average discount rate:		
Operating leases	4.2 %	5.5 %
Finance leases	4.7 %	4.2 %

Future minimum lease commitments under non-cancellable leases as of March 31, 2021 were as follows (in thousands):

	Operating Leases	Sublease Income	Net Operating Leases	Finance Leases
2021	$ 24,383	$ 485	$ 23,898	$ 11,436
2022	19,218	23	19,195	7,936
2023	16,605	—	16,605	2,997
2024	11,070	—	11,070	667
2025	9,522	—	9,522	1
Thereafter	35,951	—	35,951	—
Total future lease payments	116,749	508	116,241	23,037
Less: Amount representing interest	15,054	—	15,054	1,145
Present value of future payments	101,695	508	101,187	21,892
Less: Tenant incentives	—	—	—	—
Net present value of future payments	101,695	508	101,187	21,892
Less: Current portion	20,613	—	20,613	10,707
Long-term portion	$ 81,082	$ 508	$ 80,574	$ 11,185

Purchase Commitment

The Company entered into purchase commitments, which have the ability to be canceled without significant penalties, with multiple suppliers to purchase $101.0 million of photovoltaic modules, inverters and batteries by the end of 2022.

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. A warranty is provided for solar energy systems sold and leased. However, for the solar energy systems under Customer Agreements, the Company does not accrue a warranty liability because those systems are owned by consolidated subsidiaries of the Company. Instead, any repair costs on those solar energy systems are expensed when they are incurred as a component of customer agreements and incentives costs of revenue.

Commercial ITC 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 Commercial ITCs. 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. One of the Company's investors is being audited by the IRS. Since this audit is ongoing, the Company is unable to determine the potential tax liabilities 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 Commercial ITCs that are passed-through to, and claimed by, the Fund investors. 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 Commercial 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 Commercial 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 April 8, 2019, a putative class action captioned *Loftus et al. v. Sunrun Inc.*, Case No. 3:19-cv-01608, was filed in the United States District Court, Northern District of California. The complaint generally alleges 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 June 26, 2019, adding defendant MediaMix 365, LLC, also asserting individual and putative class claims under the TCPA, along with claims under the California Invasion of Privacy Act. In the amended version of their Complaint, plaintiffs seek statutory damages, equitable and injunctive relief, and attorneys’ fees and costs on behalf of themselves and the absent purported classes. 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. While the Company believes that the claims against it are without merit, in view of the cost and risk of continuing to defend the action, it reached an agreement with plaintiffs to settle the lawsuit on a class-wide basis for $5.5 million, which was accrued as of June 30, 2020, in exchange for a release of all claims that were or could have been asserted in the litigation. The settlement is subject to court approval. Preliminary approval was granted on September 25, 2020 and the court has scheduled the final approval hearing for May 6, 2021.

In October 2019, two shareholders filed separate putative class actions in the U.S. District Court for the Eastern District of New York (*Crumrine v. Vivint Solar, Inc.* and *Li v. Vivint Solar, Inc.*) purportedly on behalf of themselves and all others similarly situated. The lawsuits purport to allege violations of Federal Securities Laws. In March 2020, the court consolidated the two actions and appointed lead plaintiffs and lead counsel to represent the alleged putative class. Subsequently, in December 2020, the Eastern District of New York transferred the actions to the District of Utah, where they are now pending. Vivint Solar disputes the allegations in the complaint. The Company is unable to estimate a range of loss, if any, at this time.

In December 2019, ten customers who signed residential power purchase agreements named Vivint Solar in a putative class action lawsuit captioned *Dekker v. Vivint Solar, Inc.* (N.D. Cal.), alleging that the agreements contain unlawful termination fee provisions. The Company disputes the allegations in the complaint. On January 17, 2020, Vivint Solar moved to compel arbitration with respect to nine of the ten plaintiffs whose contracts included arbitration provisions. The court issued an order compelling eight plaintiffs to pursue their claims in arbitration but subsequently rescinded the order as to certain plaintiffs. At this time, certain plaintiffs' claims remain pending before the court and other plaintiffs' claims are in arbitration. The Company is unable to estimate a range of loss, if any, at this time.

In March 2020, a shareholder filed a derivative action captioned *Oyola-Rivera v. Allred* (DE Chancery Court) against various officers and directors of Vivint Solar, Inc., alleging that they breached their duties of loyalty, care, and good faith. Vivint Solar, Inc. is named as a nominal defendant. The defendants dispute the allegations in the complaint. The Company is unable to estimate a range of loss, if any, at this time.

On December 2, 2020, the California Contractors State License Board (the "CSLB") filed an administrative proceeding against the Company and certain of its officers related to an accident that occurred during an installation by one of the Company's channel partners, Horizon Solar Power, which holds its own license with the CSLB. If this proceeding is not resolved in the Company's favor, it could potentially result in fines, a public reprimand, probation or the suspension or revocation of the Company's California Contractor's License. The Company strongly denies any wrongdoing in the matter and intends to work cooperatively with the CSLB while vigorously defending itself in this action. Any potential effect of the CSLB proceeding on the Company's consolidated financial statements is unknown.

In addition to the matters discussed above, in the normal course of business, the Company has from time to time been named as a party to various legal claims, actions and complaints. While the outcome of these matters cannot currently be predicted with certainty, the Company does not currently believe that the outcome of any of these claims will have a material adverse effect, individually or in the aggregate, on its consolidated financial position, results of operations or cash flows.

The Company accrues for losses that are probable and can be reasonably estimated. The Company evaluates the adequacy of its legal reserves based on its assessment of many factors, including interpretations of the law and assumptions about the future outcome of each case based on available information.

Note 16. Earnings Per Share

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

	Three Months Ended March 31,	
	2021	**2020**
Numerator:		
Net loss attributable to common stockholders	$ (23,789)	$ (27,959)
Denominator:		
Weighted average shares used to compute net loss per share attributable to common stockholders, basic	202,562	119,220
Weighted average effect of potentially dilutive shares to purchase common stock	—	—
Weighted average shares used to compute net loss per share attributable to common stockholders, diluted	202,562	119,220
Net loss per share attributable to common stockholders		
Basic	$ (0.12)	$ (0.23)
Diluted	$ (0.12)	$ (0.23)

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

	Three Months Ended March 31,	
	2021	2020
Outstanding stock options	559	2,616
Unvested restricted stock units	345	2,002
Convertible senior notes (if converted)	2,337	—
Total	3,241	4,618

Note 17. Related Party Transactions

Advances Receivable—Related Party

Net amounts due from direct-sales professionals were $ 6.4 million as of March 31, 2021. The Company provided a reserve of $ 0.6 million as of March 31, 2021 related to advances to direct-sales professionals who have terminated their employment agreement with the Company.

Note 18. Acquisitions

Vivint Solar, Inc.

On October 8, 2020, the Company acquired Vivint Solar, a leading full-service residential solar provider in the United States, at an estimated purchase price of $5.0 billion, pursuant to an Agreement and Plan of Merger, dated as of July 6, 2020, by and among the Company, Vivint Solar and Viking Merger Sub, Inc., a Delaware corporation and direct wholly owned subsidiary of the Company ("Merger Sub"), pursuant to which Merger Sub merged with and into Vivint Solar, with Vivint Solar continuing as the surviving corporation (the "Merger"). As a result of the Merger, Vivint Solar became a direct wholly owned subsidiary of the Company.

As the Company finalizes the fair value of assets acquired and liabilities assumed, additional purchase price adjustments may be recorded during the measurement period (a period not to exceed 12 months) in 2021. The Company is in the process of finalizing its third-party valuations of solar energy systems; thus, the provisional measurements of solar energy systems, goodwill and deferred income tax assets are subject to change as additional information is received and certain tax returns are finalized.

Note 19. Subsequent Events

On April 20, 2021, Sunrun Luna Portfolio 2021, LLC ("Borrower"), a wholly-owned indirect subsidiary of the Company, entered into a non-recourse, floating rate revolving warehouse facility (the "Warehouse Facility") pursuant to which it may borrow up to an aggregate principal amount of $630 million, expandable up to $800 million, from certain financial institutions. The Warehouse Facility has an advance rate of 80% of the discounted present value of the cash flows financed.

During the period in which the Borrower may make borrowings under the Warehouse Facility, interest on borrowings accrues at an annual rate equal to the Benchmark (initially LIBOR and when LIBOR ceases to be available or if the administrative agent and the Borrower so elect, a SOFR-based rate) plus 2.50%. After such availability period, interest will accrue at an annual rate equal to the Benchmark plus 3.50%. In addition, the Borrower is required to enter into interest rate hedging arrangements such that not less than 80.0% of the aggregate expected amortization profile of all outstanding revolving advances is subject to a fixed interest rate or other interest rate protection. Initially, subject to the terms of the Warehouse Facility, only interest payments are due on a quarterly basis, through the availability period, and then cash flows will be applied to amortize principal. These payments will occur on the last day of January, April, July and October of each year. Principal and interest payable under the Warehouse Facility mature in four years and optional prepayments, in whole or in part, are permitted under the Warehouse Facility no more than once per month, without premium or penalty apart from any customary breakage provisions.

The Warehouse Facility includes customary events of default, conditions to borrowing and covenants, including negative covenants that restrict, subject to certain exceptions, the Borrower's, guarantors' and Borrower's subsidiaries' ability to incur indebtedness, incur liens, make fundamental changes to their respective businesses, make certain types of restricted payments and investments or enter into certain transactions with affiliates. Certain reserve accounts totaling approximately $2.6 million were funded at closing.

The obligations of the Borrower are secured by a pledge of the membership interests in the Borrower, all of the Borrower's assets (including membership interests of the Borrower's directly-owned subsidiaries (including subsidiaries acting as managing members of the underlying investment funds)) and all of the assets of the Borrower's directly-owned subsidiaries (including, with respect to the subsidiaries that are managing members of underlying investment funds, the membership interests owned by such subsidiaries in such underlying investment funds).

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

You should read the following discussion and analysis of our financial condition and results of operations together with the unaudited consolidated financial statements and related notes included elsewhere in this Quarterly Report on Form 10-Q. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those discussed below. Factors that could cause or contribute to such differences include those identified below and those discussed in the section titled “Risk Factors” included elsewhere in this Quarterly Report on Form 10-Q.

Overview

Sunrun’s mission is to provide our customers 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 customers 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.

On October 8, 2020, we completed the acquisition of Vivint Solar, Inc. ("Vivint Solar") a leading full-service residential solar provider in the United States, at an estimated purchase price of $5.0 billion, pursuant to an Agreement and Plan of Merger, dated as of July 6, 2020, by and among Sunrun, Vivint Solar and Viking Merger Sub, Inc., a Delaware corporation and direct wholly owned subsidiary of the Company (“Merger Sub”). Further information about the acquisition of Vivint Solar can be found in Note 18, Acquisitions to our consolidated financial statements included elsewhere in this Quarterly Report on Form 10-Q.

We are engaged in the design, development, installation, sale, ownership and maintenance of residential solar energy systems (“Projects”) in the United States. 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 energy 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 customers with simple, predictable pricing for solar energy that is insulated from rising retail electricity prices. While customers 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- or 25-year initial term. 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 well as through our acquisition of Vivint Solar in 2020. As of March 31, 2021, we operated the largest fleet of residential solar energy systems in the United States. We have a Networked Solar Energy Capacity of 4,052 Megawatts as of March 31, 2021, which represents the aggregate megawatt production capacity of our solar energy systems that have been recognized as deployments, from our inception through the measurement date. Gross Earning Assets as of March 31, 2021 were approximately $8.1 billion. Please see the section entitled “Key Operating Metrics” for more details on how we calculate Networked Solar Energy Capacity 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.

Impacts of COVID-19 on Our Business

The COVID-19 pandemic and the resulting impact on the U.S. economy have accelerated many of our operational initiatives to deliver best-in-class customer value and to reduce costs. We have invested in technology to streamline our installation processes, including online permitting and interconnection in many locations, as well as employing extensive use of drone technology to complete rooftop surveys. While we continue to install solar energy systems in most markets, we are monitoring this fluid situation and will follow official regulations to protect our employees and customers.

Following the first shelter-in-place orders in California, we enabled our entire salesforce to complete sales consultations in a virtual setting. Despite the fact that we have at times paused sourcing leads through certain channels, we have seen more leads through our digital channels at similar or more attractive customer acquisition costs. We believe this transition towards a digital model for many sales channels will position us well to realize sustaining reductions in customer acquisition costs. We are gradually returning to retail sales, and our direct-to-home sales professionals, after adapting to remote sales practices, have subsequently been able to resume direct-to-home sales activities in most markets.

The ultimate impact of the COVID-19 pandemic is still highly uncertain and subject to change, and we do not yet know the full extent of potential delays or impacts on our business, operations or the global economy as a whole. We will continue to monitor developments affecting our workforce, our customers, and our business operations generally and will take actions that we determine are necessary in order to mitigate these impacts.

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 Commercial 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 Commercial ITCs, accelerated depreciation and certain government or utility incentives associated with the funds' ownership of solar energy systems.

As of March 31, 2021, we had 65 active investment funds, which 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	Consolidated Joint Ventures: 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 Commercial ITCs	Recognized on the permission to operate ("PTO") date	None	None
Method of calculating investor interest	Effective interest rate method	Greater of HLBV or redemption value; or pro rata	Greater of HLBV or redemption value; or pro rata
Liability balance as of March 31, 2021	$ 339.2	N/A	N/A
Noncontrolling interest balance (redeemable or otherwise) as of March 31, 2021	N/A	$ 1,188.6	$ 38.5

For further information regarding our investment funds, including the associated risks, see Part II, Item 1A. *Risk Factors*— "Our ability to provide our solar service offerings to customers 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.

- *Networked Solar Energy Capacity* represents the aggregate megawatt production capacity of our solar energy systems, whether sold directly to customers or subject to executed Customer Agreements (i) for which we have confirmation that the systems are installed on the roof, subject to final inspection; (ii) in the case of certain system installations by our partners, for which we have accrued at least 80% of the expected project cost, or (iii) for multi-family and any other systems that have reached NTP, measured on the percentage of the project that has been completed based on expected project cost. Systems that have met this criteria are considered to be deployed.

- *Gross Earning Assets* is calculated as Gross Earning Assets Contracted Period plus Gross Earning Assets Renewal Period.

- ◦ *Gross Earning Assets Contracted Period* represents the present value of the remaining net cash flows (discounted at 5%) during the initial term of our Customer Agreements as of the measurement date. It is calculated as the present value of cash flows (discounted at 5%) we expect to receive from Subscribers in future periods, after deducting expected operating and maintenance costs, equipment replacements costs, distributions to tax equity partners in consolidated joint venture partnership flip structures, and distributions to project equity investors. We include cash flows we expect to receive in future periods from state incentive and rebate programs, contracted sales of solar renewable energy credits, and awarded net cash flows from grid service programs with utility or grid operators.

- ◦ *Gross Earning Assets Renewal Period* is the forecasted net present value we would receive upon or following the expiration of the initial Customer Agreement term but before the 30th anniversary of the system's activation (either in the form of cash payments during any applicable renewal period or a system purchase at the end of the initial term), for Subscribers as of the measurement date. We calculate the Gross Earning Assets Renewal Period amount at the expiration of the initial contract term assuming either a system purchase or a renewal, forecasting only a 30-year customer relationship (although the customer may renew for additional years, or 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 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 utility power prices.

- ◦ *Subscribers* represent the cumulative number of Customer Agreements for systems that have been recognized as deployments through the measurement date.

- *Customers* represent the cumulative number of deployments, from our inception through 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.

The definitions of Gross Earning Assets, Gross Earning Assets Contracted Period, and Gross Earning Assets Renewal Period use a discount rate of 5%; whereas the definitions used previously in our periodic reports used a discount rate of 6%.

	As of March 31,	
	2021	**2020**
Networked Solar Energy Capacity (megawatts)	4,052	2,085
Customers	573,634	290,711

	As of March 31,	
	2021	**2020**
	(in thousands)	
Gross Earning Assets Contracted Period	$ 5,488,393	$ 2,890,276
Gross Earning Assets Renewal Period	2,633,364	1,452,083
Gross Earning Assets	$ 8,121,757	$ 4,342,359

As a result of the acquisition of Vivint Solar in October 2020, we added $2.9 billion of Gross Earning Assets, of which $2.0 billion related to Gross Earning Assets Contracted Period and $0.9 billion related to Gross Earning Assets Renewal Period.

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 Contracted Period:

	As of March 31, 2021				
	Discount rate				
Default rate	3%	4%	5%	6%	7%
			(in thousands)		
5%	$ 6,318,895	$ 5,794,323	$ 5,334,478	$ 4,929,820	$ 4,572,387
0%	$ 6,510,642	$ 5,965,787	$ 5,488,393	$ 5,068,492	$ 4,697,776

Gross Earning Assets Renewal Period:

	As of March 31, 2021				
	Discount rate				
Purchase or Renewal rate	3%	4%	5%	6%	7%
			(in thousands)		
80%	$ 3,434,087	$ 2,793,237	$ 2,279,936	$ 1,867,352	$ 1,534,577
90%	$ 3,964,834	$ 3,225,576	$ 2,633,364	$ 2,157,278	$ 1,773,222
100%	$ 4,495,579	$ 3,657,913	$ 2,986,791	$ 2,447,203	$ 2,011,866

Total Gross Earning Assets:

	As of March 31, 2021				
	Discount rate				
Purchase or Renewal rate	3%	4%	5%	6%	7%
			(in thousands)		
80%	$ 9,944,729	$ 8,759,024	$ 7,768,329	$ 6,935,844	$ 6,232,353
90%	$ 10,475,476	$ 9,191,363	$ 8,121,757	$ 7,225,770	$ 6,470,998
100%	$ 11,006,221	$ 9,623,700	$ 8,475,183	$ 7,515,695	$ 6,709,641

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* of our annual report on Form 10-K for the year ended December 31, 2020.

We believe that policies associated with our principles of consolidation, revenue recognition, goodwill, impairment of long-lived assets, provision for income taxes, business combinations 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,	
	2021	2020
	(in thousands, except per share data)	
Revenue:		
Customer agreements and incentives	$ 174,596	$ 99,124
Solar energy systems and product sales	160,198	111,607
Total revenue	334,794	210,731
Operating expenses:		
Cost of customer agreements and incentives	160,277	78,277
Cost of solar energy systems and product sales	134,082	91,598
Sales and marketing	126,113	70,270
Research and development	5,872	4,046
General and administrative	85,630	28,074
Amortization of intangible assets	1,345	1,483
Total operating expenses	513,319	273,748
Loss from operations	(178,525)	(63,017)
Interest expense, net	(74,270)	(49,924)
Other income, net	34,347	50
Loss before income taxes	(218,448)	(112,891)
Income tax benefit	(14,126)	(3,342)
Net loss	(204,322)	(109,549)
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(180,533)	(81,590)
Net loss attributable to common stockholders	$ (23,789)	$ (27,959)
Net loss per share attributable to common stockholders		
Basic	$ (0.12)	$ (0.23)
Diluted	$ (0.12)	$ (0.23)
Weighted average shares used to compute loss per share attributable to common stockholders		
Basic	202,562	119,220
Diluted	202,562	119,220

Comparison of the Three Months Ended March 31, 2021 and 2020

Revenue

	Three Months Ended March 31,		Change	
	2021	2020	$	%
	(in thousands)			
Customer agreements	$ 157,830	$ 94,253	$ 63,577	67 %
Incentives	16,766	4,871	11,895	244 %
Customer agreements and incentives	174,596	99,124	75,472	76 %
Solar energy systems	89,050	71,277	17,773	25 %
Products	71,148	40,330	30,818	76 %
Solar energy systems and product sales	160,198	111,607	48,591	44 %
Total revenue	$ 334,794	$ 210,731	$ 124,063	59 %

Customer Agreements and Incentives. The $63.6 million increase in revenue from Customer Agreements was primarily due to both an increase in solar energy systems under Customer Agreements being added to our fleet upon the acquisition of Vivint Solar in October 2020, as well as new systems placed in service in the period from April 1, 2020 through March 31, 2021, plus a full three months of revenue recognized in 2021 for systems placed in service in the first three months of 2020 versus only a partial amount of such revenue related to the period in which the assets were in service in 2020. Revenue from incentives consists of sales of Commercial ITCs and SRECs, which increased by $11.9 million during the three months ended March 31, 2021, compared to the prior year.

Solar Energy Systems and Product Sales. Revenue from solar energy systems sales increased by $17.8 million compared to the prior year due to decreased demand through retail partners. Product sales increased by $30.8 million, primarily due to lower volume of wholesale products sold in 2020, which was impacted by COVID-19 and customers' reduced purchases in 2020 after purchasing safe harbor materials in 2019 for use in 2020.

Operating Expenses

	Three Months Ended March 31,		Change	
	2021	2020	$	%
	(in thousands)			
Cost of customer agreements and incentives	$ 160,277	$ 78,277	$ 82,000	105 %
Cost of solar energy systems and product sales	134,082	91,598	42,484	46 %
Sales and marketing	126,113	70,270	55,843	79 %
Research and development	5,872	4,046	1,826	45 %
General and administrative	85,630	28,074	57,556	205 %
Amortization of intangible assets	1,345	1,483	(138)	(9)%
Total operating expenses	$ 513,319	$ 273,748	$ 239,571	88 %

Cost of Customer Agreements and Incentives. The $82.0 million increase in Cost of customer agreements and incentives was primarily due to the increase in solar energy systems added to our fleet upon the acquisition of Vivint Solar in October 2020, as well as new systems placed in service in the period from April 1, 2020 through March 31, 2021, plus a full three months of costs recognized in 2021 for systems placed in service in the three months of 2020 versus only a partial amount of such expenses related to the period in which the assets were in service in 2020. Additionally, there was an increase of $63.3 million related to the costs associated with Vivint Solar, which included $33.5 million of depreciation expense on solar fixed assets.

The cost of Customer Agreements and incentives increased to 92% of revenue from customer agreements and incentives during the three months ended March 31, 2021, from 79% during the three months ended March 31, 2020. The increase was impacted by the acquisition of Vivint Solar, which had negative gross margins due to seasonality during the winter months where solar production is lower, as well as the increase in depreciable basis discussed above.

Cost of Solar Energy Systems and Product Sales . The $42.5 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, as well as the addition of $25.3 million related to Vivint Solar.

Sales and Marketing Expense. The $55.8 million increase in Sales and marketing expense was primarily attributable to the inclusion of Vivint Solar, which included $23.4 million of stock-based compensation expense based on the fair value at the time of the acquisition. Additionally, there were increases in headcount driving higher employee compensation and costs to acquire customers through our sales lead generating partners, as well as a fair value adjustment on contingent considerations. Partially offsetting these increases in Sales and marketing expense is a decrease in costs related to retail lead generating partners, as well as a decrease of $0.9 million in non-recurring and restructuring costs incurred during the three months ended March 31, 2021. Included in sales and marketing expense is $4.2 million and $3.4 million of amortization of costs to obtain Customer Agreements for the three months ended March 31, 2021 and 2020, respectively.

Research and Development Expense. The $1.8 million increase in Research and development expense was primarily attributable to increases in employee compensation costs, $0.4 million related to Vivint Solar, consulting costs and $0.2 million of nonrecurring acquisition related costs.

General and Administrative Expense . The $57.6 million increase in General and administrative expenses was primarily attributable to Vivint Solar, which included $36.4 million of stock-based compensation expense based on the fair value at the time of the acquisition. The remaining increase was primarily due to an increase in headcount driving higher employee compensation, consulting costs, as well as $1.7 million in nonrecurring (primarily acquisition-related) costs incurred during the three months ended March 31, 2021.

Non-Operating Expenses

	Three Months Ended March 31,		Change	
	2021	2020	$	%
		(in thousands)		
Interest expense, net	$ (74,270)	$ (49,924)	$ (24,346)	49 %
Other income (expenses), net	$ 34,347	$ 50	$ 34,297	68,594 %

Interest Expense, net. The increase in Interest expense, net of $24.3 million included $20.7 million of interest expense associated with the debt acquired with Vivint Solar. The remaining increase is primarily related to additional non-recourse debt entered into subsequent to March 31, 2020. Included in net interest expense is $6.4 million and $6.1 million of non-cash interest recognized under Customer Agreements that have a significant financing component for the three months ended March 31, 2021 and 2020, respectively.

Other Income, net. The increase in other income of $34.3 million relates primarily to gains on derivatives recognized in the three months ended March 31, 2021, with no such comparable activity in the three months ended March 31, 2020.

Income Tax Expense (Benefit)

	Three Months Ended March 31,		Change	
	2021	2020	$	%
		(in thousands)		
Income tax benefit	$ (14,126)	$ (3,342)	$ (10,784)	323 %

The increase in income tax benefit of $10.8 million primarily relates to an increase in tax benefit related to a higher pre-tax loss and an increase in stock compensation deductions that was offset by an increase in noncontrolling interest and redeemable noncontrolling interests.

Net Loss Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

	Three Months Ended March 31,		Change	
	2021	2020	$	%
	(in thousands)			
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	$ (180,533)	$ (81,590)	$ (98,943)	121 %

Net loss attributable to noncontrolling interests and redeemable noncontrolling interests was primarily the result of an additional $48.7 million net loss related Vivint Solar's noncontrolling interests and redeemable noncontrolling interests, as well as an addition of four other new investment funds since March 31, 2020, for which the HLBV method used in determining the amount of net loss attributable to noncontrolling interests. Redeemable noncontrolling interests generally allocates more loss to the noncontrolling interest in the first several years after fund formation.

Liquidity and Capital Resources

As of March 31, 2021, we had cash of $649.5 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, cash generated from our sources of revenue and borrowings from secured credit facilities arrangements with syndicates of banks and from secured, long-term non-recourse loan arrangements. In 2020, we received $595.0 million of new commitments on secured credit facilities arrangements with syndicates of banks and $1.3 billion of commitments from secured, long-term non-recourse loan arrangements. 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. As of March 31, 2021, we had outstanding borrowings of $180.2 million on our $250.0 million corporate bank line of credit maturing in April 2022. Additionally, we have purchase commitments, which have the ability to be canceled without significant penalties, with multiple suppliers to purchase $101.0 million of photovoltaic modules, inverters and batteries by the end of 2022. In January 2021, we issued $400.0 million of convertible senior notes with a maturity date of February 1, 2026, for net proceeds of approximately $389.0 million. 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,	
	2021	2020
	(in thousands)	
Consolidated cash flow data:		
Net cash used in operating activities	$ (185,647)	$ (116,885)
Net cash used in investing activities	(357,051)	(210,465)
Net cash provided by financing activities	647,923	330,369
Net change in cash and restricted cash	$ 105,225	$ 3,019

Operating Activities

During the three months ended March 31, 2021, we used $185.6 million in net cash from operating activities. The driver of our operating cash outflow consists of the cost of our revenue, as well as sales, marketing and general and administrative costs. During the three months ended March 31, 2021, our operating cash outflows were $81.7 million from our net loss excluding non-cash and non-operating items. Changes in working capital resulted in a net cash outflow of $103.9 million.

During the three months ended March 31, 2020, we used $116.9 million in net cash from operating activities. The driver of our operating cash inflow consists of the costs of our revenue, as well as sales, marketing and general and administrative costs. During the three months ended March 31, 2020, our operating cash outflows were $35.3 million from our net loss excluding non-cash and non-operating items. Changes in working capital resulted in a net cash inflow of $81.6 million.

Investing Activities

During the three months ended March 31, 2021, we used $357.1 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, 2020, we used $210.5 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.

Financing Activities

During the three months ended March 31, 2021, we generated $647.9 million from financing activities. This was primarily driven by $198.1 million in net proceeds from fund investors and $444.4 million in net proceeds from debt, offset by $3.1 million in repayments under finance lease obligations.

During the three months ended March 31, 2020, we generated $330.4 million from financing activities. This was primarily driven by $153.7 million in net proceeds from fund investors and $177.2 million in net proceeds from debt, offset by $3.0 million in repayments under finance lease obligations.

Debt and Investing Fund Commitments

As of March 31, 2021, we had committed and available capital of approximately $746.7 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. 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.

Convertible Senior Notes Offering

On January 25, 2021, we entered into a purchase agreement (the “Purchase Agreement”) with Credit Suisse Securities (USA) LLC and Morgan Stanley & Co. LLC, as representatives of the several initial purchasers (the “Purchasers”), to issue and sell $350.0 million aggregate principal amount of 0% Convertible Senior Notes due 2026 (the “Notes”) in a private placement to qualified institutional buyers pursuant to Rule 144A under the Securities Act. The Notes were sold to the Purchasers pursuant to an exemption from the registration requirements of the Securities Act afforded by Section 4(a)(2) of the Securities Act. In addition, we granted the Purchasers an option to purchase, during a 13-day period beginning on, and including, the date on which the Notes were first issued, up to an additional $50.0 million aggregate principal amount of Notes on the same terms and conditions. The Purchasers exercised their option in full on January 26, 2021. The net proceeds from the sale of the Notes issued on January 28, 2021 (after deducting the Purchasers’ discount and estimated offering expenses) was approximately $389.0 million.

On January 28, 2021, we entered into an Indenture (the “Indenture”) with Wells Fargo Bank, National Association, as trustee (the “Trustee”), pursuant to which we issued $400.0 million aggregate principal amount of Notes. The Notes will not bear regular interest, and the principal amount of the notes will not accrete. The Notes may bear special interest under specified circumstances relating to our failure to comply with our reporting obligations under the Indenture or if the Notes are not freely tradeable as required by the Indenture. The Notes will mature on February 1, 2026, unless earlier repurchased by us, redeemed by us or converted pursuant to their terms.

In connection with the offering of the Notes, on January 25, 2021 and January 26, 2021, we entered into privately negotiated capped call transactions with Credit Suisse Capital LLC, represented by Credit Suisse Securities (USA) LLC, Morgan Stanley & Co. LLC, Barclays Bank PLC, through its agent Barclays Capital Inc., and Royal Bank of Canada, represented by RBC Capital Markets, LLC (the “Capped Calls”). The Capped Calls each have an initial strike price of approximately $117.91 per share, subject to certain adjustments, which corresponds to the initial conversion price of the Notes. The Capped Calls have initial cap prices of $157.22 per share. The Capped Calls cover, subject to anti-dilution adjustments, approximately 3.4 million shares of common stock. The Capped Calls are expected generally to reduce the potential dilution to the common stock upon any conversion of Notes and/or offset any cash payments we are required to make in excess of the principal amount of the Notes, as the case may be, in the event the market price per share of common stock, as measured under the Capped Calls, is greater than the strike price of the Capped Call, with such offset subject to a cap. If, however, the market price per share of the common stock, as measured under the Capped Calls, exceeds the cap price of the Capped Calls, there would be dilution and/or there would not be an offset of such potential cash payments, in each case, to the extent that the then-market price per share of the common stock exceeds the cap price. We used approximately $28.0 million from the net proceeds from the issuance and sale of the Notes to purchase the Capped Calls. The final components of the Capped Calls are scheduled to expire on January 29, 2026.

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, "Quantitative and Qualitative Disclosures About Market Risk," of our annual report on Form 10-K for the year ended December 31, 2020. Our exposures to market risk have not changed materially since December 31, 2020.

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, 2021. The term “disclosure controls and procedures,” as defined in Rules 13a-15I and 15d-15I under 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 the Impacts of COVID-19

The COVID-19 pandemic has had and could continue to have an adverse impact on our business, operations, and the markets and communities in which we operate. Efforts to mitigate or contain the pandemic and the resulting weakened economic conditions may disrupt and adversely affect our business.

The COVID-19 pandemic is having an unprecedented impact on the U.S. economy and has impacted our business and created significant uncertainties for our industry and the economy in general. As COVID-19 continues to spread and impact the country, effects such as the widespread growth in infections, travel restrictions, quarantines, return-to-work restrictions, government regulations, and site closures have impacted and may continue to impact our ability to staff sales and operations centers and install and maintain solar energy systems in the field, as well as direct-to-home sales activities of our Vivint Solar business. The mutation of different strains of the COVID-19 virus, potentially varying in degree of transmissibility and lethality, present further uncertainty, as does the timing, distribution, and efficacy of the COVID-19 vaccines.

Due to these impacts and uncertainties, we have run multiple scenarios to stress test our business and operations to evaluate the impact of significant reductions in demand, and restraints or regulations limiting our ability to sell and/or install our products in some or all jurisdictions in which we operate. Given these developments and mitigation measures that restrict certain paths to market our services, we have accelerated our transition to a more digital sales-focused model and reduced the size of certain parts of our workforce, particularly in our retail sales channels. We believe that the actions we have taken, and may continue to take in the future, to address these impacts will better position our company to manage these risks; however, we cannot ensure that the steps we have taken will be successful, and such steps may also disrupt our operations, impede our productivity, or otherwise be ineffective in a rapidly changing environment.

We are further responding by taking steps to mitigate the potential risks to us posed by the spread of COVID-19. For example, we have taken extra precautions for our employees who work in the field and for employees who continue to work in our facilities, including implementing social distancing policies, and have implemented work-from-home policies where appropriate. We have also implemented several protocols aimed at safeguarding customers. Because we provide a critical service to our customers, we believe that we must take steps aimed at keeping our employees and customers safe and minimizing unnecessary risk of exposure to the virus. Even with the mitigation strategies we have employed, we may not be successful in limiting the spread of COVID-19 among our employees or our customers, which could damage our reputation among our employee base and among our customers and materially and adversely impact our business.

In an effort to curtail the spread of the disease, various state and local jurisdictions have adopted executive orders, shelter-in-place orders, quarantines, and similar government orders and restrictions on the operations of many businesses and industries. In many such jurisdictions, we have been deemed an essential service, allowing us to continue our installation and field service operations. However, in 2020, certain jurisdictions temporarily enacted restrictions that prevented our field sales and installations. Following our acquisition of Vivint Solar, the impact of these and any additional restrictive orders could have an additional material adverse impact on our business given the importance of the direct-to-home sales model used by Vivint Solar.

The COVID-19 pandemic has also led to significant volatility in global financial markets, which could negatively affect our cost of and access to capital and could have an adverse impact on customer demand and the financial health and credit risk associated with our customers. Future disruptions or instability in capital markets could also negatively impact our ability to raise capital from third parties, such as tax equity partners, to grow our business. In addition, a recession or market correction resulting from the COVID-19 pandemic could adversely affect our business and the value of our common stock. The full economic impact of the pandemic and resulting restrictive governmental orders is still not known. Our customers may face reduced income, unemployment or increased medical bills as a result of the pandemic, which could negatively impact their ability to pay for our services and may cause potential new customers to delay or choose not to engage in a dialogue with us about our services, which may materially and adversely impact our business.

While COVID-19 has not significantly impacted our supply chain to date, we continue to monitor the situation closely and are working closely with our solar partners and suppliers to develop contingency plans for potential operations and supply chain interruptions.

The global COVID-19 pandemic continues to rapidly evolve. The ultimate impact of the pandemic is highly uncertain and subject to change. We do not yet know the full extent of potential delays or impacts on our business, operations or the global economy as a whole. However, these effects could have a material impact on our operations. We will continue to monitor developments affecting our workforce, our customers, and our business operations generally and will take additional actions that we determine are necessary in order to mitigate the impacts, however, any steps we take may be inadequate and, as a result, our business may be harmed.

Risks Related to the Solar Industry

The solar energy industry is an emerging market which 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 materially, 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 customer 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 customers 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.

Furthermore, 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, changes in retail prices of electricity or changes in customer preferences would adversely impact our business.

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, customer 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 restrictions stemming from the COVID-19 pandemic, tariffs and trade barriers, export regulations, regulatory or contractual limitations, industry market requirements, and changes in technology and industry standards.

For example, we and our solar partners purchased a significant portion of the solar panels used in our solar service offerings from overseas manufacturers. In January 2018, in response to a petition filed under Section 201 of the Trade Act of 1974, President Trump 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 stepped down by 5% annually in the second and third years, and were scheduled to step down 5% in the fourth year. However, in October 2020, President Trump issued a proclamation increasing the tariff from 15% to 18% for the fourth and final year of the original Sec. 201 proclamation imposing the tariffs. While the tariffs are currently set to expire in February 2022, the Biden Administration could decide to extend them.

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%. In May 2019, the 10% tariff was increased to 25%. 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. We cannot predict whether and to what extent U.S. trade policies will change under the Biden administration and cannot ensure that additional tariffs or other restrictive measures will not continue or increase.

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

We face competition from traditional energy companies as well as solar and other renewable 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 customers 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, utilities 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 also 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 customers, maintain high customer satisfaction, or compete 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 customers. We also face competitive pressure from companies that may offer lower-priced consumer offerings than we do.

In addition, 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 customers 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 customers, particularly those who wish to avoid long-term contracts or have an aesthetic or other objection to putting solar panels on their roofs.

Furthermore, 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.

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.

A customer's decision to buy solar energy from us is impacted 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;
- energy conservation technologies and public initiatives to reduce electricity consumption;

- development of new energy technologies that provide less expensive energy, including storage; and

- utility rate adjustments and customer class cost reallocation.

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 customers and our growth would be limited.

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.

Climate change may have long-term impacts on our business, our industry, and the global economy.

Climate change poses a systemic threat to the global economy and will continue to do so until our society transitions to renewable energy and decarbonizes. While our core business model seeks to accelerate this transition to renewable energy, there are inherent climate-related risks to our business operations. Warming temperatures throughout the United States, and in California in particular, have contributed to extreme weather, intense drought, and increased wildfire risks. These events have the potential to disrupt our business, our third-party suppliers, and our customers, and may cause us to incur additional operational costs. For instance, natural disasters and extreme weather events associated with climate change can impact our operations by delaying the installation of our systems, leading to increased expenses and decreased revenue and cash flows in the period. They can also cause a decrease in the output from our systems due to smoke or haze. Additionally, if weather patterns significantly shift due to climate change, it may be 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.

Our corporate mission is to create a planet run by the sun, and we seek to mitigate these climate-related risks not only through our core business model and sustainability initiatives, but also by working with organizations who are also focused on mitigating their own climate-related risks.

Risks Related to Our Operating Structure and Financing Activities

We need to raise capital to finance the continued growth of our operations and 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 also 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, the level of U.S. national debt, currency fluctuations, unemployment rates, the availability and cost of credit, the U.S. housing market, tariffs, trade wars, inflation levels, interest rates, energy costs, and concerns over a slowing economy or other factors, 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 would 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 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 customers, which could negatively impact 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 customers 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 customer 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 customers.

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. Some of 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.

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 tax equity investors.

Our investors in our tax equity investment funds typically advance capital to us based on, among other things, production capacity estimates. The models we use to calculate prepayments in connection with certain of our tax equity investment funds are updated 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 sold or leased to the tax equity investment fund, the cost thereof, and the date the equipment went into service. In some cases, these true-up models 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 tax equity investor’s prepayments or to contribute additional assets to the tax equity investment fund. In addition, certain of our tax equity fund investors have the right to require us to purchase their interests in the tax equity 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.

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 and power purchase arrangements to outright purchases of the solar energy system by the customer (i.e., a customer purchases the solar energy system outright instead of leasing the system or buying power 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 2020, 2019, and 2018, 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 customers 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.

Additionally, as discussed above, further reductions in the Commercial ITC as scheduled may impact the attractiveness of solar energy to certain customers and could potentially harm our business. Further reductions in, eliminations of, or expirations of, governmental incentives such as the Residential Energy Efficiency Tax Credit could reduce the number of customers who choose to purchase our solar energy systems.

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 our Notes, 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, in each case, included in this periodic report. 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 and negatively impact our financial condition and prospects.

Indebtedness under our Bank Line of Credit and certain of our Senior and Subordinated Debt Facilities bear interest at variable interest rates based on LIBOR. Changes in the method of determining LIBOR, or the replacement of LIBOR with an alternative reference rate, may adversely affect interest rates on our current or future indebtedness and may otherwise adversely affect our financial condition and results of operations.

In July 2017, the Financial Conduct Authority, the authority that regulates LIBOR, announced that it intended to stop compelling banks to submit rates for the calculation of LIBOR after 2021. The Alternative Reference Rates Committee (“ARRC”) in the U.S. has proposed that the Secured Overnight Financing Rate (“SOFR”) is the rate that represents best practice as the alternative to the U.S. dollar LIBOR for use in derivatives and other financial contracts that are currently indexed to LIBOR. ARRC has proposed a paced market transition plan to SOFR from U.S. dollar LIBOR and organizations are currently working on industry-wide and company-specific transition plans as relating to derivatives and cash markets exposed to U.S. dollar LIBOR. We have certain financial contracts, including our Bank Line of Credit and many of our Senior and Subordinated Debt Facilities, that are indexed to U.S. dollar LIBOR. Furthermore, changes in the method of determining LIBOR, or the replacement of LIBOR with an alternative reference rate, may adversely affect interest rates on our current or future indebtedness. Any transition process may involve, among other things, increased volatility or illiquidity in markets for instruments that rely on LIBOR, reductions in the value of certain instruments or the effectiveness of related transactions such as hedges, increased borrowing costs, uncertainty under applicable documentation, or difficult and costly consent or amendment processes. We are monitoring this activity and evaluating the related risks, and any such effects of the transition away from LIBOR may result in increased expenses, may impair our ability to refinance our indebtedness or hedge our exposure to floating rate instruments, or may result in difficulties, complications or delays in connection with future financing efforts, any of which could adversely affect our financial condition and results of operations.

We may not have the ability to raise the funds necessary to settle conversions of the Convertible Senior Notes in cash or to repurchase the Convertible Senior Notes upon a fundamental change, and our future debt may contain limitations on our ability to pay cash upon conversion or repurchase of the Convertible Senior Notes.

Holders of the Convertible Senior Notes (the “Notes”) will have the right to require us to repurchase all or a portion of their Notes upon the occurrence of a fundamental change under the indenture, which includes certain events such as a change of control, before the maturity date at a fundamental change repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid special interest, if any. In addition, upon conversion of the Notes, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the Notes being converted. However, we may not have enough available cash or be able to obtain financing at the time we are required to make repurchases of Notes surrendered therefor or pay cash for Notes being converted. In addition, our ability to repurchase the Notes or to pay cash upon conversions of the Notes may be limited by law, by regulatory authority or by agreements governing our indebtedness at the time.

Our failure to repurchase Notes at a time when the repurchase is required by the indenture governing such Notes or to pay any cash payable on future conversions of the Notes as required by the indenture would constitute a default. A default under the indenture or the fundamental change itself could also lead to a default under agreements governing our existing or future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Notes or make cash payments upon conversions thereof.

We are subject to counterparty risk with respect to the capped call transactions.

In connection with our issuance of the Notes in January 2021, we entered into privately negotiated capped call transactions (the “Capped Call transactions”) with certain financial institutions (the "option counterparties"). The option counterparties are financial institutions or affiliates of financial institutions, and we will be subject to the risk that one or more of such option counterparties may default under the Capped Call transactions. Our exposure to the credit risk of the option counterparties will not be secured by any collateral. If any option counterparty becomes subject to bankruptcy or other insolvency proceedings, with respect to such option counterparty’s obligations under the relevant Capped Call transaction, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under such transaction. Our exposure will depend on many factors but, generally, an increase in our exposure will be positively correlated to an increase in our common stock market price and in the volatility of the market price of our common stock. In addition, upon a default by any of the option counterparties, we may suffer adverse tax consequences and dilution with respect to our common stock. We can provide no assurance as to the financial stability or viability of any of the option counterparties.

Risks Related to Regulation and Policy

We rely on net metering and related policies to offer competitive pricing to customers 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, 2021, a substantial majority of states have adopted net metering policies. Net metering policies are designed to allow homeowners to serve their own energy load using on-site 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, reduce the value of the credit provided to homeowners for excess generation, or impose charges on homeowners that have net metering. For example, on April 14, 2020, the New England Ratepayers Association filed a petition with the Federal Energy Regulatory Commission (“FERC”), asking it to assert exclusive federal jurisdiction over state net metering programs. Such a declaratory order, if granted, would have encouraged legal challenges to state net metering programs and could have reduced the bill credits customers receive for the electricity they export to the grid. On July 16, 2020, FERC dismissed the petition unanimously on procedural grounds, but at least one commissioner indicated that FERC could revisit the issue of net metering jurisdiction in the future.

In October 2015 the Hawaii Public Utilities Commission (the “Hawaii Commission”) issued an order that eliminates net metering for all new homeowners. All existing net metering customers and customers who submitted net metering applications before October 12, 2015 are grandfathered indefinitely under the old rules. Interim tariffs currently exist in Hawaii. Permanent tariffs are currently under consideration by the Hawaii Commission, and customers on the interim tariff may be switched over to these newer tariffs. We continue to sell, build, and service systems in Hawaii. The new programs in Hawaii are more complex, which decreases certainty in the economic value proposition we provide to customers and potentially slows down market growth. Recent proposals submitted by utility companies have proposed significant changes to the marketplace, such as utility ownership/control over solar energy systems, which may further detrimentally impact the economic value proposition to customers and slow 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 making customers eligible for the prior net metering rules if they had installed a solar energy system or had submitted a net metering application prior to December 31, 2015. Furthermore, in June 2017, Nevada enacted legislation, AB 405, that restores net metering at a reduced credit and guarantees new customers receive the net metering rate in effect at the time they applied for interconnection for 20 years. As another example, in December 2016, the Arizona Corporation Commission (“ACC”) issued a decision to eliminate net metering for new solar customers and replace it with a net-feed in tariff (a fixed export rate). In May 2018, Connecticut enacted legislation to end the state’s net metering program upon the conclusion of the Residential Solar Investment Program, and replace it with two yet-to-be-determined rate structures. On June 28, 2019, legislation was signed into law delaying the implementation of these programs and continuing Connecticut’s net metering program through the end of 2021. In November 2017, the Utah Public Service Commission (“Utah PSC”) approved a settlement between the solar industry and Rocky Mountain Power, the main investor-owned utility in Utah. The agreement reduced the compensation customers receive for power exported to the grid by about 10% below the retail rate. The Utah PSC then initiated a case to quantify the value of power exported from behind-the-meter solar energy systems. In December 2020, after a three-year case, the Utah PSC established a new compensation rate at roughly 45% below the average retail rate.

Some states set limits on the total percentage of a utility’s customers that can adopt net metering. For example, South Carolina had a net metering cap that was eliminated in May 2019 when South Carolina enacted the Energy Freedom Act. The new law allows for regulatory review of net metering after two years, with changes to rate design to occur in June 2021. While Sunrun and Duke Energy have reached a settlement in South Carolina, the state’s Public Service Commission has not yet approved the deal. Conversely, Dominion has filed an anti-net energy metering plan that we oppose strongly. Illinois has a threshold that triggers a commission process to determine what valuation of solar comes after net metering rate design. New Jersey currently has no net metering cap; however, it has a threshold 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 those jurisdictions 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 energy systems, or the introduction of rate designs mentioned above, would adversely impact our business.

California’s Public Utilities Commission (“CPUC”) has made changes to rate design for solar customers, such as adopting "time of use" rates with different electricity prices during peak and off peak hours, as well as modifications to the minimum bill for solar customers. The CPUC is revisiting its net metering policy in a proceeding that began in the third quarter of 2020 and is expected to conclude near the end of 2021 and not take effect until sometime in 2022, or in early 2023. The California investor-owned utilities, along with other parties, are seeking to reduce the level of compensation for customer-owned generation and to impose grid access fees on solar customers. Similarly, certain California municipal utilities, which are not regulated by the CPUC and would not be governed by the CPUC's net metering policy, have also announced they plan to review their net metering policies. Such reviews have been taking place at California municipal utilities since 2015.

Electric utility statutes and regulations and changes to such 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 and are constantly evolving. These statutes, regulations, and administrative rulings relate to electricity pricing, net metering, consumer protection, 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, or energy bill management, to customers.

In addition, many utilities, their trade associations, and fossil fuel interests in the country, which have significantly greater economic, technical, operational, 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.

Regulations and policies related to rate design could deter potential customers from purchasing our solar service offerings, reduce the value of the electricity our systems produce, and reduce any savings that our customers 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 customers 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—while 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, the 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 from our offerings. These forms of rate design could adversely impact our business by reducing the value of the electricity our solar energy systems produce compared to retail net metering, and reducing any savings customers 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.

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 and the Illinois Power Agency have issued orders regulating distributed energy providers in certain ways as if they were energy service companies, which increases the regulatory compliance burden for us in such states. 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, 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 customers 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 customers until they are interconnected to the grid.

Interconnection regulations are based on claims from utilities regarding the amount of solar energy 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 require 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 energy systems over time. As a result, these regulations may hamper our ability to sell our offerings in certain markets and increase our costs, adversely affecting our business, operating results, financial condition, and prospects. These advanced functions will become more commonplace as regions start to require 1547-2018 inverters, with activation of some advanced functions starting January 2022 in Maryland, Colorado and Arizona, with more to follow.

Risks Related to Our Business Operations

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, batteries, 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, batteries, and other system components 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 also 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 is 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.

Similarly, there is a limited number of suppliers of batteries. Once we design a system for use with a particular battery, if that type of battery is not readily available from our supplier, we may incur delays and additional expenses to install the system or be forced to redesign the system.

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 the steps required for construction to be deemed to have commenced in time to qualify for federal investment tax credits resulted in significant module shortages in the market as utilities and large commercial customers started purchasing supplies in advance of the December 2019 deadline to qualify for a 30% Commercial ITC. 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.

In addition, our supply chain and operations (or those of our partners) could be subject to events beyond our control, such as earthquakes, wildfires, flooding, hurricanes, tsunamis, typhoons, volcanic eruptions, droughts, tornadoes, the effects of climate change and related extreme weather, public health issues and pandemics, war, terrorism, government restrictions or limitations on trade, and geo-political unrest and uncertainties. For example, the COVID-19 pandemic is having an unprecedented impact on the U.S. economy and on our business, and the extent to which the COVID-19 pandemic may impact our supply chain and operations is uncertain. The extent of the impact of the COVID-19 pandemic on our business and operations will depend on several factors, such as the duration, severity, and geographic spread of the outbreak and the extent of travel restrictions and business closures imposed in China, the United States, and other countries. In addition, human rights issues in foreign countries and the U.S. government response to them could disrupt our supply chain and operations. For example, allegations regarding forced labor in China and U.S. regulations to prohibit the importation of any goods derived from forced labor could affect our supply chain and operations.

As the primary entity that contracts with customers, 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 customers 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 customers’ 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.

For example, on December 2, 2020, the California Contractors State License Board (the “CSLB”) filed an administrative proceeding against Sunrun and certain of its officers related to an accident that occurred during an installation by one of our channel partners, Horizon Solar Power, which holds its own license with the CSLB. If this proceeding is not resolved in our favor, it could potentially result in fines, a public reprimand, probation or the suspension or revocation of our California Contractor’s License. We strongly deny any wrongdoing in the matter and intend to work cooperatively with the CSLB while vigorously defending ourselves in this action.

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. Customers 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 may be materially and adversely affected.

In addition, the installation of solar energy 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 customers and, as a result, could cause a significant reduction in demand for our solar service offerings.

We have a variety of stringent quality standards that we apply in the selection, supervision, and oversight of our third-party suppliers and solar partners. We exercise oversight over our partners through written agreements requiring compliance with the laws and requirements of all jurisdictions, including regarding safety and consumer protections, by oversight of compliance with these agreements, and enforced by termination of a partner relationship for failure to meet those obligations. However, because our suppliers and partners are third parties, ultimately, we cannot guarantee that they will follow our standards or ethical business practices, such as fair wage practices and compliance with environmental, safety and other local laws, despite our efforts to hold them accountable to our standards. 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 were located in California as of March 31, 2021, 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.

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

If our solar service offerings, including our racking systems, photovoltaic modules, batteries, inverters, 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 customers 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. Our solar energy systems, including our photovoltaic modules, batteries, inverters, and other products, may also be subject to recalls due to product malfunctions or defects. 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 customers, thus affecting our growth and financial performance.

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

As of March 31, 2021, more than 40% of our customers were in California, and we expect many of our future installations to be in California, which could further concentrate our customer base and operational infrastructure. Accordingly, our business and results of operations are particularly susceptible to adverse economic, regulatory, political, weather and other conditions in this market, including the impacts of the COVID-19 pandemic, and in other markets that may become similarly concentrated, in particular the east coast, where we have seen significant growth recently.

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, or a public health crisis, such as a pandemic, or civil unrest 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.

The majority of the Vivint Solar business is conducted using the direct-to-home sales channel.

Historically, the Vivint Solar business' primary sales channel has been a direct-to-home sales model. We are vulnerable to changes in laws and regulations related to direct sales and marketing that could impose additional limitations on unsolicited residential sales calls and may impose additional restrictions such as adjustments to our marketing materials and direct-selling processes, and new training for personnel. If additional laws and regulations affecting direct sales and marketing are passed in the markets in which we operate, it would take time to train our sales professionals to comply with such laws, and we may be exposed to fines or other penalties for violations of such laws. If we fail to compete effectively through our direct-selling efforts, our financial condition, results of operations and growth prospects could be adversely affected.

Expansion into new sales channels could be costly and time-consuming. As we enter new channels, we could be at a disadvantage relative to other companies who have more history in these spaces.

As we continue to expand into new sales channels, such as direct-to-home, homebuilder, retail, and e-commerce channels and adapt to a remote selling model, we have incurred and may continue to incur significant costs. In addition, we may not initially or ever be successful in utilizing these new channels. Furthermore, we may not be able to compete successfully with companies with a historical presence in such channels, and we may not realize the anticipated benefits of entering such channels, including efficiently increasing our customer base and ultimately reducing costs. Entering new channels also poses the risk of conflicts between sales channels. If we are unable to successfully compete in new channels, our operating results and growth prospects could be adversely affected.

Obtaining a sales contract with a potential customer does not guarantee that a potential customer will not decide to cancel or that we will not 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.

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 typically 20- or 25-year 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. Customers may choose to not renew or purchase for any reason, including 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.

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

Our Customer Agreements are typically for 20 or 25 years and require the customer to make monthly payments to us. Accordingly, we are subject to the credit risk of customers. As of March 31, 2021, the average FICO score of our customers under a Customer 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 customer defaults have been immaterial to date, we expect that the risk of customer defaults may increase as we grow our business.

Due to the immaterial amount of customer 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 customer credit defaults, our revenue and our ability to raise new investment funds could be adversely affected. If economic conditions worsen, certain of our customers 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.

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

We have in the past and may in the future, acquire companies, Project pipelines, Projects, SRECs, products, or technologies or enter into joint ventures or other strategic transactions. For example, we completed the acquisition of Vivint Solar on October 8, 2020. Also, in July 2020, we announced a venture with SK E&S Co., Ltd. and other affiliated companies focused on home electrification. We may not realize the anticipated benefits of past or future investments, strategic transactions, or acquisitions, and these transactions involve numerous risks that are not within our control. These risks include the following, among others:

- failure to satisfy the required conditions and otherwise complete a planned acquisition, joint venture or other strategic transaction on a timely basis or at all;
- legal or regulatory proceedings, if any, relating to a planned acquisition, joint venture or other strategic transaction and the outcome of such legal proceedings;
- difficulty in assimilating the operations, systems, 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 investments, strategic transactions, or 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, and the trading price of our common stock could decline.

Mergers and acquisitions 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 customer’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 certain confidential information related to BrightPath 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 are 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.

Disruptions to our solar production metering solution could negatively impact our revenue 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 3G or 4G cellular data networks, which are expected to sunset before the term of our Customer Agreements, 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.

Customers 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. 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 customers, or such warranties may be limited in scope and amount, and may be inadequate to protect us. We also provide a performance guarantee with certain solar service offerings pursuant to which we compensate customers on an annual basis if their system does not meet the electricity production guarantees set forth in their agreement with us. Customers 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. We may suffer financial losses associated if significant performance guarantee payments are triggered.

Because of our limited operating history and the length of the term of our Customer Agreements, 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 customers 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.

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 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, subject us to claims or litigation, and have an adverse impact on our business.

We receive, store and use personal information of customers, 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, has resulted in, and could result in future 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 customers and have an adverse impact on our business.

While we currently maintain cybersecurity insurance, such insurance may not be sufficient to cover us against claims, and we cannot be certain that cyber insurance will continue to be available to us on economically reasonable terms, or at all, or that any insurer will not deny coverage as to any future claim.

Our business is subject to complex and evolving laws and regulations regarding privacy and data protection (“data protection laws”). Many of these laws and regulations are subject to change and uncertain interpretation, and could result in claims, increased cost of operations, or otherwise harm our business.

The regulatory environment surrounding data privacy and protection is constantly evolving and can be subject to significant change. New data protection laws, including recent California legislation and regulation which affords California consumers an array of new rights, including the right to be informed about what kinds of personal data companies have collected and why it was collected, pose increasingly complex compliance challenges and potentially elevate our costs. Complying with varying jurisdictional requirements could increase the costs and complexity of compliance, and violations of applicable data protection laws could result in significant penalties. Any failure, or perceived failure, by us to comply with applicable data protection laws could result in proceedings or actions brought against us by governmental entities or others, subject us to significant fines, penalties, judgments and negative publicity, require us to change our business practices, increase the costs and complexity of compliance, and adversely affect our business.

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 customers 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 customers' properties or cancel Projects, our brand and reputation could be significantly impaired. We also depend greatly on referrals from customers for our growth. Therefore, our inability to meet or exceed customers' 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 may have a broader brand footprint, 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 revenue. We cannot assure you that such marketing and branding expenses will result in the successful expansion of our brand recognition or increase our revenue. We are also subject to marketing and advertising regulations in various jurisdictions, and overly restrictive conditions on our marketing and advertising activities may inhibit the sales of the affected products.

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 customers' Projects and successfully manage customer 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 have in the past been, and may in the future 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 customers 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 technical and 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 customers' Projects on time or manage customer 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 are subject to legal proceedings, regulatory inquiries and litigation, and we have previously been, and may in the future 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 from time to time. 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 customers. We and our solar partners must comply with numerous federal, state and local laws and regulations that govern matters relating to our interactions with customers, including those pertaining to privacy and data security, consumer financial and credit transactions, home improvement contracts, warranties and direct-to-home solicitation, along with certain rules and regulations specific to the marketing and sale of residential solar products and services. 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. 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.

Any investigations, actions, adoption or amendment of regulations relating to the marketing of our products to residential consumers could divert management’s attention from our business, 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 or could reduce the number of our potential customers.

We cannot ensure that our sales professionals and other personnel will always comply with our standard practices and policies, as well as applicable laws and regulations. In any of the numerous interactions between our sales professionals or other personnel and our customers or potential customers, our sales professionals or other personnel may, without our knowledge and despite our efforts to effectively train them and enforce compliance, engage in conduct that is or may be prohibited under our standard practices and policies and applicable laws and regulations. Any such non-compliance, or the perception of non-compliance, has exposed us to claims and could expose us to additional claims, proceedings, litigation, investigations, or enforcement actions by private parties or regulatory authorities, as well as substantial fines and negative publicity, each of which may materially and adversely affect our business and reputation. We have incurred, and will continue to incur, significant expenses to comply with the laws, regulations and industry standards that apply to us.

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 and utility systems. The evaluation and installation of our energy-related products also 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 illness, 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 illness, 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, illnesses, 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.

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. 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.

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, including as a result of our recent acquisition of Vivint Solar, 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 continue to place, a significant strain on our management, operational and financial infrastructure. In particular, we have been in the past, and may in the future, 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 customers, suppliers, and other third parties and attract new customers 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 customer 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.

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, make significant investments to drive future growth in our business 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:

- mitigating the impact of the COVID-19 pandemic on our business;

- 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;
- maintaining high levels of product quality, performance, and customer satisfaction;
- successfully integrating the Vivint Solar business;
- 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 the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section, the following factors, among others, 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 customer 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;
- our failure to successfully integrate the Vivint Solar business;
- 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, including as a result of the COVID-19 pandemic; 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 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 provided, 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, including those related to the COVID-19 pandemic). 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 purchased outright versus the number of our solar energy systems that are subject to long-term Customer Agreements, 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.

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. Maintaining our disclosure controls and procedures and internal controls over financial reporting in accordance with this standard requires significant resources and management oversight. 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.

Risks Related to Taxes and Accounting

Our ability to provide our solar service offerings to customers 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, 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 customers 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
- legislative or regulatory changes or decreases to these incentives including the anticipated step-down of the Commercial ITC (described below).

The federal government currently offers an investment tax credit ("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. If construction on the facility began before January 1, 2020, the amount of the Commercial ITC available is 30%, if construction began during 2020, 2021, or 2022, the amount of the Commercial ITC available is 26%, and if construction begins during 2023, the amount of the Commercial ITC available is 22%. The Commercial ITC steps down to 10% if construction of the facility begins after December 31, 2023 or if the facility is not placed in service before January 1, 2026. The depreciable basis of a solar facility is also reduced by 50% of the amount of any Commercial ITC claimed. The Internal Revenue Service (the "IRS") provided taxpayers guidance in Notice 2018-59 for determining when construction has begun on a solar facility. This guidance is relevant for any facilities which we seek to deploy in future years but take advantage of a higher tax credit rate available for an earlier year. For example, we have sought to avail ourselves of the methods set forth in the guidance to retain the 30% Commercial ITC that was available prior to January 1, 2020 by incurring certain costs and taking title to equipment in 2019 or early 2020 and/or by performing physical work on components that will be installed in solar facilities. From and after 2023, we may seek to avail ourselves of the 26% credit rate by using these methods to establish the beginning of construction in 2020, 2021, or 2022 and we may plan to similarly further utilize the program in future years if the Commercial ITC step down continues. While we have attempted to ensure that these transactions will comply with the guidance issued by the IRS, this guidance is relatively limited and potentially subject to change. Either the IRS or our financing partners could challenge whether a facility is properly qualified for the relevant tax credit rate under the guidance, which could either result in lower tax equity advances or trigger indemnification obligations to our tax equity investors. It is also possible that we will not be able to use all of the equipment purchased or manufactured to satisfy the beginning of construction rules set forth in the guidance.

The federal government also currently offers a personal income tax credit under Section 25D of the Code (“Residential Energy Efficiency Tax Credit”), for the installation of certain solar power facilities owned by residential taxpayers, which is applicable to customers who purchase a solar energy system outright as opposed to entering into a Customer Agreement. The Residential Energy Efficiency Tax Credit is currently 26% if the facility is placed in service during 2020, 2021, or 2022, and 22% if placed in service during 2023. The Residential Energy Efficiency Tax Credit is not available for property placed in service after December 31, 2023.

Future reductions in the Commercial ITC and any further legislative reductions or changes to the Commercial ITC may impact the attractiveness of solar energy to certain tax equity investors and could potentially harm our business. Obtaining tax equity funding (and tax equity funding on advantageous terms) also may become more challenging. Additionally, the benefits of the Commercial ITC have historically enhanced our ability to provide competitive pricing for customers. Further reductions in, eliminations of, or expirations of, governmental incentives such as the Residential Energy Efficiency Tax Credit could reduce the number of customers who choose to purchase our solar energy systems.

Additionally, potential investors must remain satisfied that the structures that we offer 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 IRS and/or the courts could reduce the willingness of investors to invest in funds associated with these solar energy systems. Moreover, reductions to the corporate tax rate may have reduced the appetite for tax benefits overall, which could reduce the pool of available funds. 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 become available, but 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 customers on an economically viable basis, which would have a material adverse effect on our business, financial condition, and results of operations.

If the IRS 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. 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 or our tax equity investment funds reported, we may owe our fund investors an amount equal to this difference (including any interest and penalties), 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 or our tax equity investment funds 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.

We purchased an insurance policy in 2018 insuring us and related parties for additional taxes owed in respect of lost Commercial 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 Commercial ITCs, taxes, costs and expenses. Similarly, not all of the investment funds related to Vivint Solar are covered by insurance policies.

One of our investment funds covered by our 2018 insurance policy is currently being audited by the IRS in an audit involving a review of the fair market value determination of our solar energy systems. If this audit results in an adverse finding, we may be subject to an indemnity obligation to our investor, which may result in certain out-of-pocket costs and increased insurance premiums in the future. The IRS audit is still ongoing, and we are unable to determine the potential tax liabilities, if any, at this time.

Our business currently depends on the availability of utility rebates, tax credits and other benefits, tax exemptions and exclusions and other financial incentives. We may be adversely affected by changes in U.S. tax laws, and the expiration, elimination or reduction of these benefits 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 Commercial ITCs and Residential Energy Efficiency Tax Credit, as discussed above, as well as other tax credits, rebates and solar renewable energy credits ("SRECs") associated with solar energy generation. Some markets, such as New Jersey and Maryland, 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, legislation was enacted to expand New Jersey's solar carve-out to 5.1% of kilowatt hours of electricity sold in the state. In December 2019, the state regulators adopted a transition program to follow the current SREC program that will be based on a fixed price SREC model and which is anticipated to be available to replace the current SREC program. 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 customers 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 Commercial ITC and Residential Energy Efficiency Tax Credit), 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.

In December 2017, significant tax legislation was enacted, including a change to the corporate tax rate (the "Tax Act"). As part of the 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 may have reduced appetite for the Commercial ITC and depreciation benefits available with respect to solar facilities. We cannot predict whether and to what extent U.S. the corporate income tax rate will change under the Biden administration. Further 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 our investors. Similarly, any unfavorable interpretations of tax law by the IRS and/or the courts with respect to our financing structures could reduce the willingness of investors to invest in our funds associated with any such structure.

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, some states have property tax exemptions that exempt the value of solar energy systems in determining values for calculation of local and state real and personal property taxes. State and local tax exemptions can have sunset dates, triggers for loss of the exemption, and 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 customers would be higher, which could offset any potential savings our solar service offerings could offer. Similarly, if state or local legislatures or tax administrators impose property taxes on third-party owners of solar energy systems, solar companies like us would be subject to higher costs. For example, 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. In Texas, there is inconsistency between counties on how third-party-owned systems are subjected to the state solar property tax exemption. California provides an exclusion (the "Solar Exclusion") from the assessment of California property taxes for qualifying "active solar energy systems" installed as fixtures before January 1, 2025, provided such systems are locally rather than centrally assessed ("Eligible Property"). However, the Solar Exclusion is not a permanent exclusion from the assessment of property tax. Once a change in ownership of the Eligible Property occurs, the Eligible Property may be subject to reassessment and California property taxes may become due.

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 expire or can be changed by state legislatures, regulators, tax administrators, or court rulings and such changes could adversely impact our business and the profitability of our offerings in certain markets.

As a result of our acquisition of Vivint Solar, we may be subject to adverse California property tax consequences.

The State of California provides an exclusion (the “Solar Exclusion”) from the assessment of California property taxes for qualifying “active solar energy systems” installed as fixtures before January 1, 2025, provided such systems are locally rather than centrally assessed (“Eligible Property”). However, the Solar Exclusion is not a permanent exclusion from the assessment of property tax. Once a change in ownership of the Eligible Property occurs, the Eligible Property may be subject to reassessment and California property taxes may become due.

Vivint Solar, through certain of its subsidiaries, owns solar energy systems that constitute Eligible Property (the “California PV Systems”). To the extent Vivint Solar or its subsidiaries are considered the tax owners of the California PV Systems for purposes of the California Revenue and Tax Code (“CR&T”), our acquisition of Vivint Solar would constitute a change of control of the California PV Systems triggering the loss of the Solar Exclusion and the imposition of California property taxes, which could adversely affect our business.

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, including the integration of Vivint Solar, which presents additional complexities relating to the design and implementation of our disclosure controls and internal control over financial reporting. 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 we are 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 Nasdaq, the 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 Financial Accounting Standards Board (“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 June 2016 the FASB issued Accounting Standards Update No. 2016-13, *Measurement of Credit Losses on Financial Instruments* ("ASU No. 2016-13"), which replaces the current incurred loss impairment methodology with a current expected credit losses model. Other companies in our industry may be affected differently by the adoption of ASU No. 2016-13 or other new accounting standards, including timing of the adoption of new accounting standards, adversely affecting the comparability of financial statements.

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

As of December 31, 2020, we had U.S. federal and state net operating loss carryforwards (“NOLs”) of approximately $0.7 billion and $2.1 billion, respectively, which begin expiring in varying amounts in 2028 and 2024, respectively, if unused. Our U.S. federal and certain state NOLs generated in tax years beginning after December 31, 2017 total approximately $1.1 billion and $176.3 million, respectively, have indefinite carryover periods, and do not expire. Under Sections 382 and 383 of the Code, if a corporation undergoes an “ownership change,” the corporation’s ability to use its pre-change NOLs and other pre-change tax assets, such as 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. Additionally, states may impose other limitations on the use of NOLs and tax credit carryforwards. For example, California has recently imposed other limitations on the use of NOLs and limited the use of certain tax credits for taxable years beginning in 2020 through 2022. Any such limitations on our ability to use our NOLs 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 only Vivint Solar, Inc. underwent an ownership change as of October 8, 2020.

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 the fiscal year ended December 31, 2020, 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 43.5% of the outstanding shares of our common stock, based on the number of shares outstanding as of March 31, 2021. 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 in our common stock.

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;
- the continued adverse impact of the COVID-19 pandemic;
- changes in tax and other incentives that we rely upon in order to raise tax equity investment funds;
- actual or perceived privacy or data security incidents;
- our ability to protect our intellectual property and other proprietary rights;
- 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;
- major catastrophic events or civil unrest;
- negative publicity, including accurate or inaccurate commentary or reports regarding us, our products, our sales professionals or other personnel, or other third parties affiliated with us, on social media platforms, blogs, and other websites;
- any significant change in our management; and
- general economic conditions and slow or negative growth of our markets.

Further, 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 trading price of the notes and 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, including SK E&S Co., Ltd. and other affiliated companies as well as certain stockholders who received shares as a result of our acquisition of Vivint Solar, 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, including shares underlying equity awards assumed in connection with our acquisition of Vivint Solar. 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. In addition, our amended and restated bylaws also provide that, unless we consent to the selection of an alternative forum, to the fullest extent permitted by law, the federal district courts of the United States of America shall be the sole and exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. If a court were to find the choice of forum provisions 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. In addition, our credit agreements contain restrictions on payments of cash dividends. 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 issuances of our capital stock or equity-linked securities 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. For example, we recently completed the acquisition of Vivint Solar, in which we issued 0.55 shares of our common stock for each share of Vivint Solar's common stock owned prior to the acquisition, which resulted in dilution to our stockholders. Additional issuances of our capital stock may be made pursuant to the exercise or conversion of new or existing convertible debt securities (including the Notes), 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 also 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 of our common stock or securities convertible into or exchangeable or exercisable for our common stock could be substantial, and the market price of our common stock could decline.

The Capped Call transactions may affect the value of our common stock.

In connection with the issuance of the Notes, we entered into the Capped Call transactions with the option counterparties. The capped call transactions are expected generally to reduce the potential dilution to our common stock upon any conversion of Notes and/or offset any cash payments we are required to make in excess of the principal amount of converted Notes, as the case may be, with such reduction and/or offset subject to a cap.

The option counterparties or their respective affiliates may modify their hedge positions by entering into or unwinding various derivatives with respect to our common stock and/or purchasing or selling our common stock or other securities of ours in secondary market transactions prior to the maturity of the Notes (and are likely to do so during the observation period for conversions of Notes following November 1, 2025 or following any repurchase of Notes by us). This activity could also cause or avoid an increase or a decrease in the market price of our common stock.

The potential effect, if any, of these transactions and activities on the market price of our common stock will depend in part on market conditions and cannot be ascertained at this time.

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

Unregistered Sales of Equity Securities

In January 2021, we issued warrants exercisable for up to 316,177 shares of our common stock to certain strategic partners, calculated using the closing stock price of $60.48 on March 31, 2021. The shares underlying the warrants will vest upon certain time- and performance-based criteria as set forth in the warrants. The exercise price of the warrants is $0.01 per share, and no exercises occurred during the quarter ended March 31, 2021.

The warrants were issued and sold pursuant to an exemption from the registration requirements of Section 5 of the Securities Act of 1933, as amended, as they did not involve a public offering under Section 4(a)(2) and were issued as restricted securities pursuant to Rule 144 of the Act.

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	Filed Herewith
4.1	Indenture, dated January 28, 2021, between Sunrun Inc. and Wells Fargo Bank, National Association	8-K	001-37511	4.1	1/28/2021	
4.2	Form of 0% Convertible Senior Note due 2026 (included in Exhibit 4.1)	8-K	001-37511	4.2	1/28/2021	
10.1	Purchase Agreement, dated January 25, 2021, by and among Sunrun Inc. Credit Suisse Securities (USA) LLC and Morgan Stanley & Co. LLC, as representatives of the several initial purchasers named in Schedule I thereto.	8-K	001-37511	10.1	1/28/2021	
10.2	Form of Capped Call Confirmation	8-K	001-37511	10.2	1/28/2021	
10.3¥	Consent and Eleventh Amendment to Second Amended and Restated Credit Agreement and Eleventh Amendment to Amended and Restated Cash Diversion and Commitment Fee Guaranty dated as of March 25, 2021, among Sunrun Hera Portfolio 2015-A, LLC, the Company, Silicon Valley Bank (as administrative agent and as lender), ING Capital LLC (as issuing bank) and each of the additional lenders identified on the signature pages thereto.					X
10.4¥	Amendment No. 2 to the Second Amended and Restated Credit Agreement among the Company, AEE Solar, Inc., Sunrun South LLC, Sunrun Installation Services Inc., Clean Energy Experts, LLC, each of the lenders party thereto and Keybank National Association (as administrative agent and lender), dated as of March 5, 2021					X
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 - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.					
101.SCH	XBRL Taxonomy 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.					
104	Cover Page Interactive Data File (formatted as inline XBRL with applicable taxonomy extension information contained in Exhibits 101.INS, 101.SCH, 101.CAL, 101.DEF, 101.LAB, and 101.PRE)					

¥ Portions of this exhibit have been omitted from the exhibit because they are both not material and are the type of information that the Company treats as private or confidential.

† 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 5, 2021	By:	/s/ Lynn Jurich
		Lynn Jurich **Chief Executive Officer** **(Principal Executive Officer)**
	By:	/s/ Tom vonReichbauer
		Tom vonReichbauer **Chief Financial Officer** **(Principal 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 10.3

CONSENT AND ELEVENTH AMENDMENT TO SECOND AMENDED AND RESTATED CREDIT AGREEMENT AND ELEVENTH AMENDMENT TO AMENDED AND RESTATED CASH DIVERSION AND COMMITMENT FEE GUARANTY

This CONSENT AND ELEVENTH AMENDMENT TO SECOND AMENDED AND RESTATED CREDIT AGREEMENT AND ELEVENTH AMENDMENT TO AMENDED AND RESTATED CASH DIVERSION AND COMMITMENT FEE GUARANTY, dated as of March 25, 2021 (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 Silicon Valley Bank, as Administrative Agent for the Lenders (in such capacity, the "Administrative Agent") and ING Capital LLC, 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 undersigned Lenders wish to provide, consent to the acquisition by the Borrower of Sunrun Kronos Manager 2020, LLC, a Delaware limited liability company and a Tax Equity Holdco (such acquisition, the "Tax Equity Holdco Acquisition");

WHEREAS, the Borrower desires to cause the following existing Tax Equity Opcos and Inverted Lease Opco to become Wholly Owned Opcos pursuant to Section 2.05(d) of the Amended Credit Agreement: (a) Sunrun Solar Owner XVIII, LLC, a Delaware limited liability company ("Owner XVIII"), (b) Sunrun Solar Owner XVII, LLC, a Delaware limited liability company ("Owner XVII"), (c) Sunrun Solar Owner XII, LLC, a Delaware limited liability company ("Owner XII") and (d) Owner XI (Owner XI, Owner XVIII, Owner XVII and Owner XII, collectively, the "Target Opcos" and, each, a "Target Opco");

WHEREAS, in connection with such acquisition, the Borrower wishes to obtain, and the Administrative Agent (acting on the instructions of the undersigned Lenders) wishes to provide, in each case pursuant to Section 7.10(d) of the Amended Credit Agreement, consent to the direct acquisition by each applicable Tax Equity Holdco (and the indirect acquisition by the Borrower) of all of the membership interests held by (a) the Tax Equity Class A Member in each of (i) Owner XVIII, (ii) Owner XVII and (iii) Owner XII and (b) the tax equity investor in Tenant XI (each such acquisition, a "Tax Equity Investor Buyout" and, collectively, the "Tax Equity Investor Buyouts");

WHEREAS, in connection with the acquisition of Owner XI as a Wholly Owned Opco, the Borrower wishes to obtain, and the Administrative Agent and the undersigned Lenders wish to provide consent to (a) upon consummation of the Tax Equity Investor Buyout of Tenant XI, the distribution by Tenant XI to Holdco XI of all of the membership interests of Owner XI owned by Tenant XI, such that following such distribution, Holdco XI shall be the sole owner of (i) 100% of the membership interests in Owner XI and (ii) 100% of the membership interests in Tenant XI, respectively (the "Tenant XI Distribution") and (b) upon consummation of the Tenant XI Distribution, the Borrower causing Holdco XI to (i) cause Owner XI and Tenant XI to mutually terminate that certain Master Lease, dated as of June 13, 2013, by and between Owner XI and Tenant XI, (ii) cause Tenant XI to terminate that certain Master REC Purchase Agreement, dated as of June 13, 2013, by and between Sponsor and Tenant XI, and (iii) cause Tenant XI to assign all of Tenant XI's rights, obligations and interests in, to and under (x) that certain Operation and Maintenance Agreement, dated as of June 13, 2013, as amended by the First Amendment to Operation and Maintenance Agreement, dated as of April 28, 2015, by and between Sponsor and Tenant XI (the " Fund XI O&M Agreement") and (y) that certain Back-Up Servicing Agreement dated as of March 31, 2015, by and among the Sponsor, Tenant XI, and U.S. Bank National Association (the "Fund XI Back-Up Servicing Agreement"), to Owner XI (all actions in the forgoing clauses (a) and (b), collectively, the "Inverted Lease Fund Reorganization");

WHEREAS, on March 16, 2021, the Borrower provided notice pursuant to Section 2.01(g) of its desire to permanently reduce the Revolving Loan Commitment;

WHEREAS, on March 16, 2021, the Borrower provided notice pursuant to Section 2.02(d)(i) of its desire to permanently reduce the LC Commitment; 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 VII 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:

> ""Amendment No. 11" shall mean that certain Consent and Eleventh Amendment to Second Amended and Restated Credit Agreement and Eleventh Amendment to Amended and Restated Cash Diversion and Commitment Fee Guaranty, dated as of March 25, 2021, among the

Borrower, the Sponsor, the Administrative Agent, the Issuing Bank and the Lenders identified on the signature pages thereto."

""Kronos 2020 LLCA" shall mean that certain Amended and Restated Limited Liability Company Agreement of Sunrun Kronos Owner 2020, LLC, dated as of December 3, 2020, entered into by and among Sunrun Kronos Manager 2020, LLC, [***] and [***]."

2. Amendment to Section 1.01. The definition of "Availability Period" is hereby amended to replace "March 27, 2021" with "March 27, 2022."

3. Amendment to Section 1.01. The definition of "Issuing Bank" is hereby amended to replace "and (b)" with ", (b) ING Capital LLC and (c)"

4. Amendment to Section 1.01. The definition of "LC Commitment" is hereby amended by deleting the last proviso thereof and inserting in its place "; provided, that the aggregate principal amount of the LC Lenders' LC Commitments shall not exceed $10,000,000."

5. Amendment to Section 1.01. The definition of "Revolving Loan Commitment" is hereby amended by deleting the last proviso thereof and inserting in its place "; provided, that the aggregate principal amount of the Lenders' Revolving Loan Commitments shall not exceed $350,000,000."

6. Amendment to Section 1.01. The definition of "Tax Equity Holdco" is hereby amended and restated in its entirety as follows:

"Tax Equity Holdco" shall mean each entity designated as a "Partnership Flip Holdco", "IRR Partnership Flip Holdco" or Inverted Lease Holdco" by the Borrower on Schedule 5.03(e).

7. Amendment to Section 7.10. Section 7.10 is hereby amended by inserting the following at the end thereof as a new paragraph (e):

(e) Except as contemplated by Amendment No. 11 in connection with the Inverted Lease Fund Reorganization (as defined in Amendment No. 11), the Borrower shall not, and shall not permit Owner XI or Holdco XI to, terminate or materially amend or modify any Portfolio Document (other than any Project Document) to which Owner XI or Holdco XI is a party, or waive any material breach under, or material breach of, any Portfolio Document (other than any Project Document) to which Owner XI or Holdco XI is a party, in each case, without the prior written consent of the Administrative Agent (acting on the instructions of the Required Lenders).

8. Amendment to Section 7.24. Section 7.24 is hereby amended and restated in its entirety as follows:

"The Borrower shall (a) cause all Projects owned by Owner XI that are subject to Prepaid Customer Agreements to be transferred to the Sponsor or an Affiliate of the Sponsor that is not a direct or indirect subsidiary of the Borrower by no later than December 31, 2021, (b) have caused to be prepaid prior to the date of such transfer any Loans required to be prepaid as a result of any such Project becoming subject to a Prepaid Customer Agreement pursuant to Section 4.03(b) or 4.03(f), as applicable, and (c) in connection with each Advance Date occurring after March 25, 2021 and prior to the date on which the transfer contemplated by clause (a) above has been consummated, ensure that the Base Case Model delivered in connection with each Available Borrowing Base Determination Date reflects Operating Expenses through December 31, 2021 from all Projects owned by Owner XI that are subject to Prepaid Customer Agreements."

9. New Section 7.31. Article VII of the Credit Agreement is hereby amended by inserting the following as a new Section 7.31:

"The Borrower shall not cause or otherwise permit any [***] Project (as defined in the Kronos 2020 LLCA) or New Home Project (as defined in the Kronos 2020 LLCA) to be treated as an Eligible Project."

10. Amendment to Schedule 2.01. Schedule 2.01 of the Credit Agreement is hereby deleted and replaced in its entirety with the schedule set forth in Attachment A hereto.

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

"(mm) 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 Kronos 2020 LLCA) exceed aggregate revenues from such [***] Projects, in the amount of such excess."

III. Limited Consent to Acquisition. At the request of the Borrower and subject to the satisfaction of the conditions set forth in Article VII below, the Administrative Agent and each of the undersigned Lenders hereby consents and agrees to the Tax Equity Holdco Acquisition, 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 "Acquisition Consent"). The Acquisition 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 Consent to Tax Equity Investor Buyouts and Inverted Lease Fund Reorganization. At the request of the Borrower and subject to Article VIII below, the Administrative Agent and each of the undersigned Lenders hereby (a) consents and agrees to (i) the Tax Equity Investor Buyouts, for which consent of the Administrative Agent (acting on the instructions of the Required Lenders) is required pursuant to Section 7.10(d) of the Amended Credit Agreement (the "Buyout Consent") and (ii) the Tenant XI Distribution, for which consent of the Administrative Agent and the Required Lenders is required pursuant to Section 7.03 of the Amended Credit Agreement (the "Distribution Consent"), and (b) acknowledge, pursuant to Section 6.01(b)(viii) of the Amended Credit Agreement that the O&M Agreement and the Back-Up Servicing Agreement will be assigned by Tenant XI to Owner XI as part of the Inverted Lease Fund Reorganization; provided that (x) this consent shall expire with respect to a Tax Equity Investor Buyout if such Tax Equity Investor Buyout has not occurred on or prior to December 31, 2021 and (y) the Borrower shall cause the Inverted Lease Fund Reorganization to occur promptly following the Tax Equity Investor Buyout of Tenant XI. Each of the Buyout Consent and Distribution Consent granted pursuant to this Article IV is limited precisely as written and shall not extend to any other provision of the Credit Agreement or the Amended Credit Agreement.

V. Limited Consent to Appointment of Administrative Agent. At the request of the Borrower and subject to the conditions in Article VII below, each of the Required Lenders hereby (a) ratifies the resignation of Investec Bank PLC as the resigning Administrative Agent, (b) appoints Silicon Valley Bank as successor Administrative Agent, for which consent of the Required Lenders is required pursuant to Section 11.06 of the Amended Credit Agreement and which appointment is hereby confirmed by the Borrower (the "Administrative Agent Consent") and (c) confirms that the "Resignation Effective Date" shall be March 25, 2021. Silicon Valley Bank hereby accepts the appointment as successor Administrative Agent.

The parties hereto hereby confirm that, as of the Resignation Effective Date, Silicon Valley Bank succeeds to the Amended Credit Agreement and becomes vested with all of the rights, powers and privileges, and agrees to perform all of the duties, of the Administrative Agent under each of the Loan Documents (including, but not limited to, the Collateral Agency Agreement and the Depository Agreement). The parties hereto hereby further confirm that Investec Bank PLC is discharged from all of its duties and obligations as the Administrative Agent under the Amended Credit Agreement and the other Loan Documents (including, but not limited to, the Collateral Agency Agreement and the Depository Agreement), in each case, as of the Resignation Effective Date.

As of the Resignation Effective Date, the address of the "Administrative Agent" for the purposes of Schedule IV (*Administrative Agent's Office*) of the Amended Credit Agreement and each of the other Loan Documents shall be as follows:

Silicon Valley Bank
387 Park Avenue South, 2nd Floor
New York, NY 10016
Attention: Tai Pimputkar, Director
Email: TPimputkar@svb.com

The Administrative Agent Consent granted pursuant to this Article V is limited precisely as written and shall not extend to any other provision of the Credit Agreement or the Amended Credit Agreement.

VI. Selection of Replacement Issuing Bank. Subject to the conditions in Article VII below, the Borrower hereby (a) selects ING Capital LLC as replacement Issuing Bank, and which selection is hereby accepted by the Administrative Agent and (b) confirms that the replacement effective date shall be March 25, 2021. ING Capital LLC hereby agrees to its selection as replacement Issuing Bank.

The Collateral Agent is hereby expressly authorized to cancel and return the Letter of Credit issued by Investec Bank PLC concurrently with the issuance of the replacement Letter of Credit issued by ING Capital LLC.

VII. Conditions Precedent to Amendment Effectiveness. Each of the amendments contained in Articles I and II, each of the Acquisition Consent and the Administrative Agent Consent contained in Articles III and V, and the replacement of the Issuing Bank pursuant to Article VI 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 each Lender, 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).

VIII. Conditions Precedent to Tax Equity Investor Buyouts and Inverted Lease Fund Reorganization. The Buyout Consent and Distribution Consent contained in Article IV shall be effective as of the Amendment Effective Date, but consummation of (a) each Tax Equity Investor Buyout and (b) the Tenant XI Distribution and the Inverted Lease Fund Reorganization, respectively, shall be subject to the satisfaction of the following conditions precedent, as applicable:

1. with respect to each Tax Equity Investor Buyout, that no Default or Event of Default shall have occurred and be continuing or would result from such Tax Equity Investor Buyout;

2. with respect to the Inverted Lease Fund Reorganization, that no Default or Event of Default shall have occurred and be continuing or would result from such Inverted Lease Fund Reorganization;

3. with respect to each Tax Equity Investor Buyout, that the Borrower shall have delivered a fully-executed Wholly Owned Opco Certificate in the form set forth in Exhibit P of the Amended Credit Agreement with respect to the applicable Target Opco, along with each of

the documents and other items described therein, in form and substance reasonably satisfactory to the Administrative Agent;

4. with respect to each Tax Equity Investor Buyout, that the Borrower shall have caused the applicable Subsidiaries to direct all of the existing membership interest certificates in the applicable Target Opco to be cancelled, effective immediately upon the consummation of the acquisition of such Target Opco;

5. prior to the termination described in the immediately preceding Paragraph 4 with respect to each Tax Equity Investor Buyout, that the Borrower shall have caused the applicable Target Opco to deliver to the Collateral Agent new certificates representing all of the membership interests in such Tax Equity Holdco, accompanied by undated stock powers executed in blank and instruments evidencing any pledged debt indorsed in blank, which shall become effective concurrently with the cancellation described in the immediate preceding Paragraph 4;

6. with respect to each Tax Equity Investor Buyout, that the Sponsor has made a capital contribution to the applicable Tax Equity Holdco for the purchase of the membership interests held by the applicable Tax Equity Class A Member in an amount that is not less than the total amount payable to such Tax Equity Class A Member and all costs and expenses of any Person payable by the Borrower or any Subsidiary in connection therewith;

7. with respect to the Tenant XI Distribution, that the Borrower shall have delivered a fully-executed distribution agreement whereby Tenant XI distributes to Holdco XI all of the membership interests of Owner XI owned by Tenant XI, in form and substance reasonably satisfactory to the Administrative Agent; and

8. with respect to the Inverted Lease Fund Reorganization, that the Borrower shall have delivered one or more fully-executed assignment agreements whereby Tenant XI assigns to Owner XI all of its rights, obligations and interests in, to and under the Fund XI O&M Agreement and the Fund XI Back-Up Servicing Agreement, in form and substance reasonably satisfactory to the Administrative Agent.

IX. 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 (a) applicable bankruptcy, insolvency, moratorium, reorganization or other similar laws affecting the enforcement of creditors' rights, (b) the effect of general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law) or (c) 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.

X. 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 (a) the Credit Agreement in any Loan Document shall, unless expressly provided otherwise, refer to the Amended Credit Agreement and (b) the Guaranty in any Loan Document shall, unless expressly provided otherwise, refer to the Amended Guaranty.

XI. 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/ Tom vonReichbauer
Name: Tom vonReichbauer
Title: Chief Financial Officer

SUNRUN INC.,
as Guarantor

By: /s/ Tom vonReichbauer
Name: Tom vonReichbauer
Title: Chief Financial Officer

SILICON VALLEY BANK,
as Administrative Agent

By: __/s/ Jamie Goh__
Name: Jamie Goh
Title: Vice President

[***] = 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 10.3

ING CAPITAL LLC,
as Issuing Bank

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

By: /s/ Henry Miller
Name: Henry Miller
Title: Director

KEYBANK NATIONAL ASSOCIATION,
as Lender

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

SILICON VALLEY BANK,
as Lender

By: __/s/ Jamie Goh__
Name: Jamie Goh
Title: Vice President

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

DEUTSCHE BANK AG, NEW YORK BRANCH,
as Lender

By: __/s/ Jeremy Eisman__
Name: Jeremy Eisman
Title: Managing Director

By: __/s/ Kyle Hatzes__
Name: Kyle Hatzes
Title: Director

ING Capital LLC,
as Lender

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

By: __/s/ Clay Miller__
Name: Clay Miller
Title: Director

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/ Tom vonReichbauer
Name: Tom vonReichbauer
Title: Chief Financial Officer

BANKUNITED, N.A.,
as Lender

By: __Michael van Teeffelen__
Name: Michael van Teeffelen
Title: SVP

EAST WEST BANK,
as Lender

By: Christopher Simeone
Name: Christopher Simeone
Title: Senior Vice President

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

Truist Bank,
as Lender

By: __/s/ Arize Agumadu__
Name: Arize Agumadu
Title: Director

AA Infrastructure Fund 1 Ltd.,
as Lender

By: Athene Asset Management LLC,
its investment advisor

By Apollo Credit Management, LLC,
its sub-advisor

By: __/s/ Lacary Sharpe__
Name: Lacary Sharpe
Title: Vice President

Acknowledged and Agreed:

DEUTSCHE BANK TRUST COMPANY AMERICAS,
as Collateral Agent

By: /s/ Alice Carter____________________
Name: Alice Carter
Title: Assistant Vice President

By: /s/ Roxanne Tadios____________________
Name: Roxanne Tadios
Title: Assistant Vice President

Schedule 2.01

Lenders' Commitments

REVOLVING LENDERS	Revolving Loan Commitment
BankUnited, N.A.	$50,000,000
Deutsche Bank AG, New York Branch	$32,500,000
East West Bank	$17,500,000
ING Capital LLC	$64,500,000
KeyBank National Association	$35,000,000
Silicon Valley Bank	$67,900,000
Sunrun Gaia Portfolio 2016-A, LLC	$16,100,000
Truist Bank	$52,500,000
AA Infrastructure Fund 1 Ltd.	$14,000,000
Total	**$350,000,000**

LC LENDERS	LC Commitment
ING Capital LLC	$10,000,000
Total	**$10,000,000**

Exhibit 10.4

Execution Version

AMENDMENT NO. 2 TO THE SECOND AMENDED AND RESTATED CREDIT AGREEMENT

THIS AMENDMENT NO. 2 TO THE second amended and restated CREDIT AGREEMENT, dated as of March 5, 2021 (this "Amendment"), is entered into by and among SUNRUN INC., a Delaware corporation ("Sunrun"), AEE SOLAR, INC., a California corporation ("AEE Solar"), SUNRUN SOUTH LLC, a Delaware limited liability company ("Sunrun South"), and SUNRUN INSTALLATION SERVICES INC., a Delaware corporation ("Sunrun Installation Services" and, together with Sunrun, AEE Solar and Sunrun South, each, a "Borrower" and, collectively, the "Borrowers"), CLEAN ENERGY EXPERTS, LLC, a California limited liability company ("CEE" and, together with the Borrowers, each, a "Loan Party" and, collectively, the "Loan Parties"), each of the Persons identified as a "Lender" on the signature pages hereto (each, a "Lender"), and KEYBANK NATIONAL ASSOCIATION, as the Administrative Agent (the " Administrative Agent").

RECITALS

WHEREAS, the Borrowers entered into the Credit Agreement, dated as of April 1, 2015 (as amended from time to time prior to November 12, 2019, the "Original Credit Agreement"), by and among the Borrowers, CEE, as a Guarantor, the Lenders party thereto, Credit Suisse, AG, Cayman Islands Branch, as the Administrative Agent and Silicon Valley Bank, as the Collateral Agent and L/C Issuer;

WHEREAS, pursuant to that certain Resignation and Appointment of Administrative Agent, dated as of November 12, 2019, by and among Credit Suisse, AG, Cayman Islands Branch, as the resigning administrative agent, KeyBank National Association, as the successor administrative agent, the Borrowers, the Lenders party thereto and Silicon Valley Bank, as Collateral Agent and as the L/C Issuer, KeyBank National Association was appointed as Administrative Agent and accepted such appointment;

WHEREAS, pursuant to that certain Amendment No. 7 to the Credit Agreement, dated as of November 12, 2019 ("Amendment No. 7"), the Borrowers, CEE, the Lenders party thereto, the Collateral Agent and the Administrative Agent amended and restated the Original Credit Agreement in its entirety as set forth in Annex 1 to Amendment No. 7 (the Original Credit Agreement, as so amended and restated, and as further amended prior to October 5, 2020, the "Amended and Restated Credit Agreement");

WHEREAS, pursuant to that certain Second Amended and Restated Credit Agreement, dated as of October 5, 2020, the Borrowers, CEE, the Lenders party thereto, the Collateral Agent and the Administrative Agent amended and restated the Amended and Restated Credit Agreement in its entirety as set forth in Annex 1 to the Second Amended and Restated Credit Agreement (such Second Amended and Restated Credit Agreement, as amended pursuant to Amendment No. 1 thereto, dated as of January 25, 2021, among the the Loan Parties, the Lenders parties thereto, the Administrative Agent, the Collateral Agent and the L/C Issuer, the "Existing Credit Agreement");

WHEREAS, the parties hereto desire to amend the Existing Credit Agreement on the terms set forth in this Amendment;

WHEREAS, pursuant to Section 11.01 of the Existing Credit Agreement, no amendment to the Existing Credit Agreement is effective unless executed by the Borrowers or the applicable Loan Party, as the case may be, and the Required Lenders (being at least two (2) Lenders having Total Credit Exposures representing more than 50% of the Total Credit Exposures of all Lenders), and acknowledged by the Administrative Agent;

WHEREAS, the Lenders party to this Amendment have Total Credit Exposures constituting Required Lenders under the Existing Credit Agreement;

WHEREAS, this Amendment is not otherwise prohibited by Section 11.01 of the Existing Credit Agreement; and

WHEREAS, the Administrative Agent, by execution of this Amendment, is providing its acknowledgement required under Section 11.01 of the Existing Credit Agreement;

NOW, THEREFORE, in consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, agree as follows:

ARTICLE 1
DEFINITIONS

1.01 Definitions. Capitalized terms not otherwise defined in this Amendment shall have the meanings set forth in the Existing Credit Agreement.

1.02 Rules of Interpretation. The rules of interpretation set forth in Section 1.02 of the Existing Credit Agreement shall apply to this Amendment. Solely for purposes of convenience, an amendment to an existing provision of the Credit Agreement is shown in this Amendment with the text that is deleted from the provision (indicated textually in the same manner as the following example: ~~deleted text~~) and the text that is added to the provision (indicated textually in the same manner as the following example: **double-underlined text**).

ARTICLE 2
AMENDMENTS

2.01 Additional Definitions. The following new definitions are added to Section 1.01 of the Existing Credit Agreement (in proper alphanumeric order):

"Specified Vivint Entity" means each entity listed on Schedule 1.01(e) hereto, as such Schedule 1.01(f) may be amended from time to time by Sunrun with the consent of the Required Lenders.

"Specified Vivint Entity Transactions" means, with respect to any Specified Vivint Entities, the Vivint Financing(s) to which one or more of such Specified Vivint Entities are parties and that (i) is non-recourse to the Specified Vivint Entities (other than such recourse as is permitted pursuant to Section 7.02(i)) and (ii) as to which no Loan Party guaranties payment of debt service for such Vivint Financing.

2.02 Amendment to Section 7.02(i). Section 7.02(i) of the Existing Credit Agreement is hereby amended in its entirety to read as follows:

(i) any Loan Party's limited guarantees, indemnification obligations, and obligations to make capital contributions to or repurchase assets of **(x)** the Excluded Subsidiaries that are not Vivint Entities (including Equity Interests of such Excluded Subsidiaries) as required under the documents evidencing the Tax Equity Commitments, Cash Equity Commitments, Backlever Financings or System Refinancings, or SREC Transactions, as the case may be, **(y) the Specified Vivint Entities as required under the documents evidencing the related Specified Vivint Entity Transactions or (z) Vivint Solar, Vivint Solar Developer, LLC or Vivint Solar Provider, LLC, but only to the extent relating to obligations of such Vivint Entity with respect to a Specified Vivint Entity involved in, and only as required by the documents evidencing, the related Specified Vivint Entity Transactions**, so long as**, in each case,** (i) such limited guarantees, indemnification and capital contribution obligations are not made in respect of obligations to repay debt for **or pay debt service with respect to** borrowed money and, (ii) if any Loan Party is required to make a payment or contribution in connection with such obligations, after giving effect to such payment or contribution on a Pro Forma Basis, ~~(x)~~**(A)** the Loan Parties shall be in compliance with each of the financial covenants set forth in Section 7.11 and ~~(y)~~**(B)** no Borrowing Base Deficiency shall exist;

2.03 Addition of Schedule. The Existing Credit Agreement is hereby amended by adding Schedule 1.01(f) hereto as a new Schedule 1.01(e) to the Existing Credit Agreement, as the same may be amended from time to time by Sunrun with the consent of the Required Lenders.

2.04 Ratification. Except as amended by this Amendment, the Existing Credit Agreement and the other Loan Documents remain in full force and effect.

2.05 Amended Terms. On and after the Amendment Effective Date, all references to the "Credit Agreement" in each of the Loan Documents shall mean the Existing Credit Agreement as amended by this Amendment. The execution, delivery and performance of this Amendment shall not constitute a waiver of any provision of, or operate as a waiver of any right, power or remedy of the Lenders, the Administrative Agent, the Collateral Agent or an Arranger under the Existing Credit Agreement or any other Loan Document. Nothing contained in this Amendment shall be construed as a substitution or novation of the obligations (including the Obligations) of the Loan Parties outstanding under the Existing Credit Agreement or instruments securing or evidencing any of the Obligations, which shall continue and remain in full force and effect, except to the extent that the terms thereof are modified by this Amendment. Nothing expressed or implied in this Amendment shall be construed as a release or other discharge of the Loan Parties from any of their obligations or liabilities under the Existing Credit Agreement or any other Loan Document.

2.06 Loan Document. This Amendment shall constitute a Loan Document under the terms of the Existing Credit Agreement.

2.07 Reaffirmation of Guarantees and Security Interests. Each Loan Party hereby (a) affirms and confirms its guarantees, pledges, grants and other undertakings under the Existing Credit Agreement, as amended by this Amendment, the Security Agreement and the other Loan Documents to which it is a party, and (b) agrees that all guarantees, pledges, grants and other undertakings thereunder shall continue to be in full force and effect and shall accrue to the benefit of the Secured Parties, including the Lenders.

ARTICLE 3
REPRESENTATIONS AND WARRANTIES

Each Loan Party represents and warrants to each of the Lenders and the Administrative Agent, on the date hereof and on the Amendment Effective Date (as hereinafter defined), that the following statements are true and correct:

3.01 Existence. Such Loan Party is duly organized or formed, validly existing and, as applicable, in good standing under the Laws of the jurisdiction of its incorporation or organization.

3.02 Power and Authority. Such Loan Party has the requisite power and authority to execute and deliver this Amendment.

3.03 Due Authorization. The execution, delivery and performance of this Amendment have been duly authorized by all necessary corporate or limited liability company action on the part of such Loan Party. The applicable resolutions of such Loan Party authorize the execution, delivery and performance of this Amendment by such Loan Party and are in full force and effect without modification or amendment.

3.04 Binding Obligation. This Amendment has been duly executed and delivered by such Loan Party, and this Amendment and the Existing Credit Agreement, as amended by this

Amendment, constitute the legally valid and binding obligation of such Loan Party, enforceable against such Loan Party in accordance with the terms of this Amendment and the Existing Credit Agreement, as amended by this Amendment, subject to applicable bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally and subject to general principles of equity, regardless of whether such enforceability is considered in a proceeding in equity or at law.

3.05 No Default or Event of Default. As of the date hereof, no event has occurred and is continuing, or would result from the consummation of the amendments contemplated by this Amendment, that constitutes or would constitute a Default or an Event of Default.

3.06 Representations and Warranties. The representations and warranties of the Borrowers and each other Loan Party contained in the Existing Credit Agreement or any other Loan Document, are (i) with respect to representations and warranties that contain a materiality qualification, true and correct in all respects, and (ii) with respect to representations and warranties that do not contain a materiality qualification, true and correct in all material respects, in each case, on and as of the date hereof (or if such representations and warranties expressly relate to an earlier date, as of such earlier date), and the representations and warranties contained in Sections 5.05(a) and (b) of the Existing Credit Agreement are deemed to refer to the most recent statements furnished pursuant to Sections 6.01(a) and (b) of the Existing Credit Agreement, respectively.

3.07 No Borrowing Base Deficiency or NYGB Borrowing Base Deficiency. No Borrowing Base Deficiency or NYGB Borrowing Base Deficiency exists as of the date hereof.

3.08 Material Adverse Effect. No Material Adverse Effect has occurred or is continuing since the date of the last audited financial statements furnished pursuant to Section 6.01(a) of the Existing Credit Agreement.

ARTICLE 4
CONDITIONS PRECEDENT

4.01 Conditions Precedent to Effectiveness. This Amendment shall not be effective until the date (such date, the "Amendment Effective Date") that the following conditions precedent have been satisfied or waived by the Required Lenders:

(a) The Administrative Agent shall have received copies of this Amendment executed by the Loan Parties, the Required Lenders, and the Administrative Agent.

(b) The Borrowers 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 fees and out-of-pocket expenses of the counsel and other advisors or consultants retained by the Administrative Agent).

ARTICLE 5
GENERAL PROVISIONS

5.01 Notices. All notices and other communications given or made pursuant hereto shall be made as provided in the Existing Credit Agreement.

5.02 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.

5.03 Headings. Section 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.

5.04 Governing Law. This Amendment shall be governed by and construed in accordance with the law of the State of New York.

5.05 Counterparts. This Amendment may be signed in any number of counterparts and each counterpart shall represent a fully executed original as if signed by all of the parties listed below. Each party to this Amendment represents and warrants to each of the other parties to this Amendment that it has the corporate or limited liability company capacity and authority to execute this Amendment through electronic means and there are no restrictions for doing so in that party's constitutive documents.

5.06 Costs and Expenses; Indemnification; Reimbursement. The parties hereto agree that this Amendment is subject to the costs and expenses, indemnification, reimbursement and related provisions set forth in Section 11.04 of the Existing Credit Agreement.

5.07 Submission to Jurisdiction; Waiver of Venue; Service of Process; Waiver of Jury Trial . The submission to jurisdiction, waiver of venue, service of process and waiver of jury trial provisions set forth in Sections 11.14(b), (c) and (d) and 11.15 of the Existing Credit Agreement, respectively, are hereby incorporated by reference, *mutatis mutandis*.

[SIGNATURE PAGES FOLLOW]

IN WITNESS WHEREOF, the parties hereto have executed this Amendment as of the date first set forth above.

BORROWERS:

SUNRUN INC.,
a Delaware corporation

By: /s/ Tom vonReichbauer
Name: Tom vonReichbauer
Title: Chief Financial Officer

AEE SOLAR, INC.,
a California corporation

By: /s/ Tom vonReichbauer
Name: Tom vonReichbauer
Title: Chief Financial Officer

SUNRUN SOUTH LLC,
a Delaware limited liability company

By: /s/ Tom vonReichbauer
Name: Tom vonReichbauer
Title: Chief Financial Officer

SUNRUN INSTALLATION SERVICES INC.,
a Delaware corporation

By: /s/ Jeanna Steele
Name: Jeanna Steele
Title: Secretary

GUARANTOR:

CLEAN ENERGY EXPERTS, LLC,
a California limited liability company

By: /s/ Lynn Jurich
Name: Lynn Jurich
Title: President

KEYBANK NATIONAL ASSOCIATION,
as Administrative Agent and a Lender

By: /s/ Richard Gerling
Name: Richard Gerling
Title: Senior Vice President

SILICON VALLEY BANK,
as a Lender

By: /s/ Mona Maitra
Name: Mona Maitra
Title: Managing Director

[Signature Page to Amendment No. 2 to the Second Amended and Restated Credit Agreement]

MORGAN STANLEY SENIOR FUNDING, INC.,
as a Lender

By:/s/ Marisa Moss
Name: Marisa B. Moss
Title: Vice President

[Signature Page to Amendment No. 2 to the Second Amended and Restated Credit Agreement]

ROYAL BANK OF CANADA,
as a Lender

By: /s/ Mark W. Condon
Name: Mark W. Condon
Title: Authorized Signatory

[Signature Page to Amendment No. 2 to the Second Amended and Restated Credit Agreement]

CREDIT SUISSE AG, CAYMAN ISLANDS BRANCH,
as a Lender

By: /s/ William O'Daly
Name: William O'Daly
Title: Authorized Signatory

By:/s/ Komal Shah
Name: Komal Shah
Title: Authorized Signatory

NY GREEN BANK,
a division of the New York State Energy Research & Development Authority,
as a Lender

By: /s/ Andrew Kessler
Name: Andrew Kessler
Title: Acting President

SCHEDULE 1.01(e)

Specified Vivint Entities

With respect to the Sunrun 2021-1 Specified Vivint Entity Transaction:

Vivint Solar Financing VIII Parent, LLC

Sunrun Vulcan Depositor 2021-1, LLC

Sunrun Vulcan Issuer 2021-1, LLC

Vivint Solar Fund 26 Manager, LLC

Vivint Solar Fund 27 Manager, LLC

Vivint Solar Owner VIII Manager, LLC

Vivint Solar Fund 26 Project Company, LLC

Vivint Solar Fund 27 Project Company, LLC

Vivint Solar Owner VIII, LLC

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 5, 2021

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, Tom vonReichbauer, 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 5, 2021

By: /s/ Tom vonReichbauer

Tom vonReichbauer
Chief Financial Officer
(Principal 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, 2021 (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 5, 2021

By: /s/ Lynn Jurich
Lynn Jurich
Chief Executive Officer and Director
(Principal Executive Officer)

By: /s/ Tom vonReichbauer
Tom vonReichbauer
Chief Financial Officer
(Principal Financial Officer)