

Sunrun Inc.
Form 10-K/A
March 05, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K/A
(Amendment No. 1)

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

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

Commission File Number 001-37511

Sunrun Inc.
(Exact name of Registrant as specified in its Charter)

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

595 Market Street, 29th Floor	94105
San Francisco, California	
(Address of principal executive offices)	(Zip Code)
Registrant's telephone number, including area code: (415) 580-6900	

Securities registered pursuant to Section 12(b) of the Act: Common Stock, Par Value \$0.0001 Per Share; Common
Stock traded on the NASDAQ Global Select Stock Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

YES NO

Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act.

YES NO

Indicate by check mark whether the Registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of
the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant
was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

YES NO

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405) is not
contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information
statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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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. (Check one):

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company) 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

The aggregate market value of the voting and non-voting common equity held by non-affiliates of the Registrant, based on the closing price of the shares of common stock on The NASDAQ Stock Market on, December 31, 2018 was approximately \$1.17 billion.

The number of shares of Registrant's Common Stock outstanding as of February 25, 2019 was 113,899,831.

Portions of the information called for by Part III of this Form 10-K is hereby incorporated by reference from the definitive Proxy Statements for our annual meeting of stockholders, which will be filed with the Securities and Exchange Commission not later than 120 days after December 31, 2018.

EXPLANATORY NOTE

This Amendment No. 1 to the Annual Report on Form 10-K of Sunrun Inc. for the year ended December 31, 2018 as filed with the Securities and Exchange Commission on February 28, 2019 (the “Original Form 10-K”), is being filed for the sole purpose of correcting a formatting error during the filing process in which two rows in the table in Note 23, Quarterly Results of Operations (Unaudited) were inadvertently not populated. Those rows are titled “Net (loss) income per share attributable to common stockholders, basic” and “Net (loss) income per share attributable to common stockholders, diluted.”

Except as otherwise expressly noted herein, this Amendment No. 1 does not modify or update in any way the financial position, results of operations, cash flows, or other disclosures in, or exhibits to, the Original Form 10-K, nor does it reflect events occurring after the filing of the Original Form 10-K. Accordingly, this Amendment No. 1 should be read in conjunction with the Original Form 10-K.

PART II

Item 8. Financial Statements and Supplementary Data.

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Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Sunrun Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Sunrun Inc. (the Company) as of December 31, 2018 and 2017, the related consolidated statements of operations, comprehensive income, redeemable noncontrolling interests and stockholders' equity, and cash flows for each of the three years in the period ended December 31, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated February 28, 2019 expressed an unqualified opinion thereon.

Change in Accounting Principles

As discussed in Note 2 to the consolidated financial statements, the Company has changed its method of accounting for revenue from contracts with customers and for accounting for leases due to the 2018 adoption of the new revenue standard and new lease standard, respectively. The Company adopted the new revenue standard using the full retrospective approach and adopted the new lease standard using a modified retrospective approach at the beginning of the earliest comparative period presented in the financial statements.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2010.

San Francisco, California

February 28, 2019

Report of Ernst & Young LLP, Independent Registered Public Accounting Firm

To the Stockholders and the Board of Directors of Sunrun Inc.

Opinion on Internal Control over Financial Reporting

We have audited Sunrun Inc.'s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Sunrun Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the 2018 consolidated financial statements of the Company, and the related notes (collectively referred to as the "consolidated financial statements") and our report dated February 28, 2019 expressed an unqualified opinion on those financial statements and included an explanatory paragraph related to the Company's change in method of accounting for revenue from contracts with customers and for accounting for leases due to the 2018 adoption of the new revenue standard and new lease standard, respectively.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 2010.

San Francisco, California

February 28, 2019

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

	As of December 31,	
	2018	2017 As Recast
Assets		
Current assets:		
Cash	\$226,625	\$202,525
Restricted cash	77,626	39,265
Accounts receivable (net of allowances for doubtful accounts of \$2,228 and \$1,665 as of December 31, 2018 and 2017, respectively)	66,435	60,359
State tax credits receivable	2,697	11,085
Inventories	79,467	94,427
Prepaid expenses and other current assets	8,563	9,202
Total current assets	461,413	416,863
Restricted cash	148	—
Solar energy systems, net	3,820,017	3,161,570
Property and equipment, net	34,893	36,402
Intangible assets, net	10,088	14,294
Goodwill	87,543	87,543
Other assets	335,685	246,464
Total assets ⁽¹⁾	\$4,749,787	\$3,963,136
Liabilities and total equity		
Current liabilities:		
Accounts payable	\$131,278	\$115,193
Distributions payable to noncontrolling interests and redeemable noncontrolling interests	15,847	13,583
Accrued expenses and other liabilities	98,636	97,230
Deferred revenue, current portion	47,407	42,609
Deferred grants, current portion	7,885	8,193
Finance lease obligations, current portion	9,193	7,421
Non-recourse debt, current portion	35,484	21,529
Pass-through financing obligation, current portion	26,461	5,387
Total current liabilities	372,191	311,145
Deferred revenue, net of current portion	544,218	522,243
Deferred grants, net of current portion	221,739	227,519
Finance lease obligations, net of current portion	9,992	5,811
Recourse debt	247,000	247,000
Non-recourse debt, net of current portion	1,466,438	1,026,416
Pass-through financing obligation, net of current portion	337,282	132,823
Other liabilities	48,210	42,743
Deferred tax liabilities	93,633	83,119
Total liabilities ⁽¹⁾	3,340,703	2,598,819
Commitments and contingencies (Note 20)		
Redeemable noncontrolling interests	126,302	123,801
Stockholders' equity:		
Preferred stock, \$0.0001 par value—authorized, 200,000 shares as of December 31, 2018 and 2017; no shares issued and outstanding	—	—

as of December 31, 2018 and 2017		
Common stock, \$0.0001 par value—authorized, 2,000,000 shares as of		
December 31, 2018 and 2017; issued and outstanding, 113,149 and	11	11
107,350 shares as of December 31, 2018 and 2017, respectively		
Additional paid-in capital	722,429	682,950
Accumulated other comprehensive loss	(3,124) (4,113)
Retained earnings	229,391	202,734
Total stockholders' equity	948,707	881,582
Noncontrolling interests	334,075	358,934
Total equity	1,282,782	1,240,516
Total liabilities, redeemable noncontrolling interests and total equity	\$4,749,787	\$3,963,136

The Company's consolidated assets as of December 31, 2018 and 2017 include \$2,905,295 and \$2,568,378, respectively, in assets of variable interest entities, or "VIEs", that can only be used to settle obligations of the VIEs. Solar energy systems, net, as of December 31, 2018 and 2017 were \$2,712,377 and \$2,385,329, respectively; cash as of December 31, 2018 and 2017 were \$105,494 and \$118,352, respectively; restricted cash as of December 31, 2018 and 2017 were \$2,071 and \$2,699, respectively; accounts receivable, net as of December 31, 2018 and 2017 were \$18,539 and \$18,786, respectively; prepaid expenses and other current assets as of December 31, 2018 and 2017 were \$387 and \$917, respectively and other assets as of December 31, 2018 and 2017 were \$66,427 and \$42,295, respectively. The Company's consolidated liabilities as of December 31, 2018 and 2017 include \$660,758 and \$677,955, respectively, in liabilities of VIEs whose creditors have no recourse to the Company. These liabilities include accounts payable as of December 31, 2018 and 2017 of \$12,136 and \$15,929, respectively; distributions payable to noncontrolling interests and redeemable noncontrolling interests as of December 31, 2018 and 2017 of \$15,797 and \$13,526, respectively; accrued expenses and other liabilities as of December 31, 2018 and 2017 of \$7,122 and \$5,200, respectively; deferred revenue as of December 31, 2018 and 2017 of \$396,920 and \$409,761, respectively; deferred grants as of December 31, 2018 and 2017 of \$29,229 and \$30,406, respectively; non-recourse debt as of December 31, 2018 and 2017 of \$190,711 and \$201,285, respectively; and other liabilities as of December 31, 2018 and December 31, 2017 of \$8,843 thousand and \$1,848, 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)

	Year Ended December 31,		
	2018	2017	2016
		As Recast	As Recast
Revenue:			
Customer agreements and incentives	\$404,466	\$234,276	\$191,626
Solar energy systems and product sales	355,515	298,266	285,481
Total revenue	759,981	532,542	477,107
Operating expenses:			
Cost of customer agreements and incentives	240,857	186,435	154,244
Cost of solar energy systems and product sales	294,066	254,131	239,381
Sales and marketing	207,232	146,426	168,737
Research and development	18,844	15,079	10,199
General and administrative	116,659	107,400	92,416
Amortization of intangible assets	4,204	4,204	4,206
Total operating expenses	881,862	713,675	669,183
Loss from operations	(121,881)	(181,133)	(192,076)
Interest expense, net	131,771	92,255	73,340
Other (income) expenses, net	(2,788)	1,874	(840)
Loss before income taxes	(250,864)	(275,262)	(264,576)
Income tax expense	9,322	12,353	56,263
Net loss	(260,186)	(287,615)	(320,839)
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(286,843)	(413,104)	(395,968)
Net income attributable to common stockholders	\$26,657	\$125,489	\$75,129
Net income per share attributable to common stockholders			
Basic	\$0.24	\$1.19	\$0.73
Diluted	\$0.23	\$1.16	\$0.72
Weighted average shares used to compute net income			
per share attributable to common stockholders			
Basic	110,089	105,432	102,367
Diluted	117,112	108,206	104,964

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

Sunrun Inc.

Consolidated Statements of Comprehensive Income

(In Thousands)

	Year Ended December 31,		
	2018	2017	2016
		As Recast	As Recast
Net income attributable to common stockholders	\$26,657	\$125,489	\$75,129
Unrealized gain (loss) on derivatives, net of income taxes	6,187	(5,694)	335
Interest (expense) income on derivatives recognized into earnings, net of income taxes	(5,198)	1,144	1,023
Other comprehensive income (loss)	989	(4,550)	1,358
Comprehensive income	\$27,646	\$120,939	\$76,487

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

Sunrun Inc.

Consolidated Statements of Redeemable Noncontrolling Interests and Stockholders' Equity

(In Thousands)

	Redeemable Noncontrolling Interests	Preferred Stock Shares	Common Stock Shares	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
Balance at December 31, 2015 (as reported)	\$ 147,139	—	401,282	\$ 10 \$ 642,229	\$(921)	\$(87,249)	\$ 554,069	\$ 105,491	\$ 659,560
Cumulative effect of adoption of new ASUs (No. 2014-09 and No. 2016-02)	5,710	—	—	—	—	86,368	86,368	93	86,461
Balance at December 31, 2015 (as recast)	\$ 152,849	—	401,282	\$ 10 \$ 642,229	\$(921)	\$(881)	\$ 640,437	\$ 105,584	\$ 746,021
Exercise of stock options	—	—	1,852	— 5,416	—	—	5,416	—	5,416
Issuance of restricted stock units, net of tax withholdings	—	—	422	— (381)	—	—	(381)	—	(381)
Shares issued in connection with the Employee Stock Purchase Plan	—	—	515	— 2,432	—	—	2,432	—	2,432
Stock-based compensation	—	—	—	18,817	—	—	18,817	—	18,817
Contributions from noncontrolling interests and redeemable noncontrolling interests	123,023	—	—	—	—	—	—	450,519	450,519
Distributions to noncontrolling interests and redeemable noncontrolling interests	(13,606)	—	—	—	—	—	—	(28,448)	(28,448)

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Issuance of shares due to business acquisition in 2015	—	— 250	—	—	—	—	—	—	—
Offering costs in connection with underwritten public offering	—	— —	—	(437)	—	—	(437)	—	(437)
Net (loss) income	(121,270)	— —	—	—	—	75,129	75,129	(274,698)	(199,569)
Other comprehensive income, net of taxes	—	— —	—	—	1,358	—	1,358	—	1,358
Balance - December 31, 2016 (as recast)	\$ 140,996	—\$ —404,321	\$ 10	\$ 668,076	\$ 437	\$ 74,248	\$ 742,771	\$ 252,957	\$ 995,728
Cumulative effect of adoption of new ASU's (No. 2016-13 and No. 2016-16)	—	— —	—	—	—	2,996	2,996	—	2,996
Exercise of stock options	—	— 686	—	1,984	—	—	1,984	—	1,984
Issuance of restricted stock units, net of tax withholdings	—	— 1,115	—	(3,569)	—	—	(3,569)	—	(3,569)
Shares issued in connection with the Employee Stock Purchase Plan	—	— 628	1	2,619	—	—	2,620	—	2,620
Stock-based compensation	—	— —	—	22,088	—	—	22,088	—	22,088
Acquisition of noncontrolling interests	(37,919)	— —	—	(8,248)	—	—	(8,248)	(405)	(8,653)
Contributions from noncontrolling interests and redeemable noncontrolling interests	128,052	— —	—	—	—	—	—	469,617	469,617
Distributions to noncontrolling	(14,769)	— —	—	—	—	—	—	(42,690)	(42,690)

interests and redeemable noncontrolling interests									
Issuance of shares due to business acquisition in 2015	—	— 600	—	—	—	—	—	—	—
Net (loss) income	(92,559)	— —	—	—	—	125,490	125,490	(320,545)	(195,055)
Other comprehensive loss, net of taxes	—	— —	—	—	(4,550)	—	(4,550)	—	(4,550)
Balance - December 31, 2017 (as recast)	\$ 123,801	— \$ 407,350	\$ 11	\$ 682,950	\$ (4,113)	\$ 202,734	\$ 881,582	\$ 358,934	\$ 1,240,516
Cumulative effect of adoption of new ASU (No. 2017-12)	—	— —	—	—	1,992	—	1,992	—	1,992
Exercise of stock options	—	— 3,271	—	17,178	—	—	17,178	—	17,178
Issuance of restricted stock units, net of tax withholdings	—	— 1,614	—	(10,102)	—	—	(10,102)	—	(10,102)
Shares issued in connection with the Employee Stock Purchase Plan	—	— 914	—	4,546	—	—	4,546	—	4,546
Stock-based compensation Contributions from noncontrolling interests and redeemable noncontrolling interests	—	— —	—	27,857	—	—	27,857	—	27,857
Distributions to noncontrolling interests and redeemable noncontrolling interests	111,125	— —	—	—	—	—	—	234,022	234,022
Net (loss) income	(11,057)	— —	—	—	—	—	—	(69,605)	(69,605)
	(97,567)	— —	—	—	—	26,657	26,657	(189,276)	(162,619)

Other comprehensive loss, net of taxes	—	—	—	—	(1,003)	—	(1,003)	—	(1,003)
Balance -									
December 31, 2018	\$ 126,302	\$ 113,149	\$ 11	\$ 722,429	\$ (3,124)	\$ 229,391	\$ 948,707	\$ 334,075	\$ 1,282,782

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

Sunrun Inc.

Consolidated Statements of Cash Flows

(In Thousands)

	Year Ended December 31,		
	2018	2017	2016
		As Recast	As Recast
Operating activities:			
Net loss	\$(260,186)	\$(287,615)	\$(320,839)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation and amortization, net of amortization of deferred grants	156,007	128,687	98,493
Deferred income taxes	9,322	12,353	56,263
Stock-based compensation expense	27,856	22,042	18,723
Interest on pass-through financing obligations	19,205	12,629	12,757
Reduction in pass-through financing obligations	(25,005)	(18,295)	(44,913)
Other noncash losses and expenses	25,484	24,471	15,705
Changes in operating assets and liabilities:			
Accounts receivable	(5,707)	(9,409)	(1,973)
Inventories	14,960	(27,101)	4,042
Prepaid and other assets	(75,924)	(51,633)	(52,226)
Accounts payable	8,848	47,837	(40,336)
Accrued expenses and other liabilities	15,286	9,219	24,868
Deferred revenue	27,393	40,712	29,295
Net cash used in operating activities	(62,461)	(96,103)	(200,141)
Investing activities:			
Payments for the costs of solar energy systems	(806,365)	(769,363)	(678,258)
Purchases of property and equipment	(4,951)	(7,956)	(12,544)
Business acquisition	—	—	(5,000)
Net cash used in investing activities	(811,316)	(777,319)	(695,802)
Financing activities:			
Proceeds from state tax credits, net of recapture	10,887	13,773	9,081
Proceeds from issuance of recourse debt	17,000	170,400	458,400
Repayment of recourse debt	(17,000)	(167,400)	(411,400)
Proceeds from issuance of non-recourse debt	980,544	748,806	335,666
Repayment of non-recourse debt	(517,594)	(362,763)	(23,076)
Payment of debt fees	(24,849)	(14,392)	(13,741)
Proceeds from pass-through financing and other obligations	217,082	6,221	16,047
Payment of finance lease obligations	(9,025)	(9,836)	(12,759)
Contributions received from noncontrolling interests and redeemable noncontrolling interests	345,147	594,921	573,542
Distributions paid to noncontrolling interests and redeemable noncontrolling interests	(78,398)	(54,530)	(39,542)
Acquisition of noncontrolling interests	—	(35,386)	—
Proceeds from exercises of stock options, net of withholding taxes paid on restricted stock units	12,592	1,035	7,364
Offering costs paid related to initial public offering	—	—	(437)
Net cash provided by financing activities	936,386	890,849	899,145
Net change in cash and restricted cash	62,609	17,427	3,202
Cash and restricted cash, beginning of period	241,790	224,363	221,161
Cash and restricted cash, end of period	\$304,399	\$241,790	\$224,363

Supplemental disclosures of cash flow information

Cash paid for interest	\$76,313	\$42,194	\$26,191
Cash paid for taxes	\$—	\$—	\$—
Supplemental disclosures of noncash investing and financing activities			
Purchases of solar energy systems and property and equipment included in accounts payable and accrued expenses	\$27,169	\$19,625	\$18,547
Purchases of solar energy systems included in non-recourse debt	\$—	\$12,873	\$—
Right-of-use assets obtained in exchange for finance lease liabilities	\$14,302	\$650	\$12,961

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

Sunrun Inc.

Notes to Consolidated Financial Statements

Note 1. Organization

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

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

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

Note 2. Summary of Significant Accounting Policies

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles (“GAAP”) and reflect the accounts and operations of the Company and those of its subsidiaries, including Funds, in which the Company has a controlling financial interest. The typical condition for a controlling financial interest ownership is holding a majority of the voting interests of an entity. However, a controlling financial interest may also exist in entities, such as variable interest entities (“VIEs”), through arrangements that do not involve controlling voting interests. In accordance with the provisions of Financial Accounting Standards Board (“FASB”) Accounting Standards Codification Topic 810 (“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.

Reclassifications

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

Use of Estimates

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

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

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.

Revenues from external customers (including, but not limited to homeowners) for each group of similar products and services is as follows (in thousands):

	Year Ended December 31,		
	2018	2017	2016
Customer agreements	\$272,672	\$210,753	\$155,870
Incentives	131,794	23,523	35,756
Customer agreements and incentives	404,466	234,276	191,626
Solar energy systems	186,512	113,953	127,727
Products	169,003	184,313	157,754
Solar energy systems and product sales	355,515	298,266	285,481
Total revenue	\$759,981	\$532,542	\$477,107

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 investment tax credits ("ITCs") and renewable energy credits ("SRECs").

Cash and Restricted Cash

Cash consists of bank deposits held in checking and savings accounts. The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash equivalents. The Company has exposure to credit risk to the extent cash balances exceed amounts covered by federal deposit insurance. The Company believes that its credit risk is not significant.

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):

	December 31,		
	2018	2017	2016
Cash	\$226,625	\$202,525	\$206,364
Restricted cash, current and long-term	77,774	39,265	17,999
Total	\$304,399	\$241,790	\$224,363

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 are recorded at net realizable value. The Company maintains allowances for the applicable portion of receivables when collection becomes doubtful. The Company estimates anticipated losses from doubtful accounts based upon the expected collectability of all accounts receivables, which takes into account the number of days past due, collection history, identification of specific customer exposure, and current economic

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

trends. Once a receivable is deemed to be uncollectible, it is written off. In 2018, 2017 and 2016, the Company recorded provisions for bad debt expense of \$3.4 million, \$2.1 million and \$1.4 million, respectively, and wrote-off uncollectible receivables of \$2.8 million, \$1.6 million and \$1.8 million, respectively.

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

	December 31,	
	2018	2017
Customer receivables	\$64,180	\$59,263
Other receivables	1,466	1,319
Rebates receivable	3,017	1,442
Allowance for doubtful accounts	(2,228)	(1,665)
Total	\$66,435	\$60,359

State Tax Credits Receivable

State tax credits receivable are recognized upon submission of the state income tax return.

Inventories

Inventories are stated at the lower of cost or net realizable value on a first-in, first-out basis. Inventories consist of raw materials such as photovoltaic panels, inverters and mounting hardware as well as miscellaneous electrical components that are sold as-is by the distribution operations and used in installations and work-in-process.

Work-in-process primarily relates to solar energy systems that will be sold to customers, which are partially installed and have yet to pass inspection by the responsible city or utility department. For solar energy systems where the Company performs the installation, the Company commences transferring component parts from inventories to construction-in-progress, a component of solar energy systems, once a lease contract with a lease customer has been executed and the component parts have been assigned to a specific project. Additional costs incurred including labor and overhead are recorded within construction in progress.

The Company periodically reviews inventories for unusable and obsolete items based on assumptions about future demand and market conditions. Based on this evaluation, provisions are made to write inventories down to their market value.

Solar Energy Systems, net

The Company records solar energy systems subject to signed Customer Agreements and solar energy systems that are under installation as solar energy systems, net on its consolidated balance sheet. Solar energy systems, net is comprised of system equipment costs related to solar energy systems, less accumulated depreciation and amortization. Depreciation on solar energy systems is calculated on a straight-line basis over the estimated useful lives of the systems of 35 years. Prior to the fourth quarter of 2016, the Company calculated depreciation on solar energy systems on a straight-line basis to their estimated residual values over the estimated useful lives of systems, which was expected to be 20 years. The Company revised the estimated useful life of solar energy systems in the fourth quarter of 2016, as the Company reviewed its assumptions and concluded that customers are more likely to renew their lease rather than purchase the solar energy system at the end of the lease term. The impact of the change in estimate was immaterial for 2016 and future periods. The Company periodically reviews its estimated useful life and recognizes changes in estimates by prospectively adjusting depreciation expense. Inverters and batteries are depreciated over their estimated useful life of 10 years.

Solar energy systems under construction will be depreciated as solar energy systems subject to signed Customer Agreements when the respective systems are completed and interconnected.

Property and Equipment, net

Property and equipment, net consists of leasehold improvements, furniture, computer hardware and software, machinery and equipment and automobiles. All property and equipment are stated at historical cost net of accumulated depreciation. Repairs and maintenance are expensed as incurred.

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

Property and equipment is depreciated on a straight-line basis over the following periods:

Leasehold improvements	Lesser of 6 years or lease term
Furniture	5 years
Computer hardware and software	3 years
Machinery and equipment	5 years or lease term
Automobiles	Lease term

Capitalization of Software Costs

For costs incurred in the development of internal use software, the Company capitalizes costs incurred during the application development stage. Costs related to preliminary project activities and post implementation activities are expensed as incurred. Internal use software is amortized on a straight-line basis over its estimated useful life.

Additional costs of \$2.5 million, \$6.1 million and \$4.9 million were capitalized in 2018, 2017 and 2016, respectively.

Intangible Assets, net

Finite-lived intangible assets are initially recorded at fair value and are subsequently presented net of accumulated amortization. Intangible assets are amortized on a straight-line basis over their estimated useful lives as follows:

Customer relationships 6-10 years

Developed technology 5 years

Trade names 5-8 years

Impairment of Long-Lived Assets

The carrying amounts of the Company's long-lived assets, including solar energy systems and intangible assets subject to depreciation and amortization, are periodically reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable or that the useful life is shorter than originally estimated. Factors that are considered in deciding when to perform an impairment review would include significant negative industry or economic trends and significant changes or planned changes in the use of the assets. Recoverability of these assets is measured by comparison of the carrying amount of each asset group to the future undiscounted cash flows the asset group is expected to generate over its remaining life. If the asset group is considered to be impaired, the amount of any impairment is measured as the difference between the carrying value and the fair value of the impaired asset group. If the useful life is shorter than originally estimated, the Company amortizes the remaining carrying value over the new shorter useful life. The Company has recognized no material impairments of its long-lived assets in any of the periods presented.

Goodwill

Goodwill represents the excess of the purchase price over the fair value of assets acquired and liabilities assumed. Goodwill is reviewed for impairment at least annually or whenever events or changes in circumstances indicate that the carrying amount may be impaired. The Company has determined that it operates as one reporting unit and the Company's goodwill is recorded at the enterprise level. The Company performs its annual impairment test of goodwill on October 1 of each fiscal year or whenever events or circumstances change or occur that would indicate that goodwill might be impaired. When assessing goodwill for impairment, the Company uses qualitative and if necessary, quantitative methods in accordance with FASB ASC Topic 350, Goodwill. The Company also considers its enterprise value and if necessary, discounted cash flow model, which involves assumptions and estimates, including the Company's future financial performance, weighted average cost of capital and interpretation of currently enacted tax laws.

Circumstances that could indicate impairment and require the Company to perform a quantitative impairment test include a significant decline in the Company's financial results, a significant decline in the Company's enterprise value relative to its net book value, an unanticipated change in competition or the Company's market share and a

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

significant change in the Company's strategic plans. As of October 1, 2018, the Company concluded that the fair value of the Company exceeded its carrying value.

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 \$525.4 million as of December 31, 2016. Deferred revenue consists of the following (in thousands):

	December 31,	
	2018	2017
Under Customer Agreements:		
Payments received	\$538,926	\$517,544
Financing component balance	37,801	30,736
	576,727	548,280
Under SREC contracts:		
Payments received	12,977	14,805
Financing component balance	1,921	1,767
	14,898	16,572
Total	\$591,625	\$564,852

In the years ended December 31, 2018, 2017 and 2016, the Company recognized revenue of \$52.9 million, \$47.7 million and \$42.4 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 \$5.3 billion as of December 31, 2018, 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 three 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 as the typically 20 or 25 year initial term expires.

Deferred Grants

Deferred grants consist of U.S. Treasury grants and state tax credits. The Company applied for a renewable energy technologies income tax credit offered by one of the states in the form of a cash payment and deferred the tax credit as a grant on the consolidated balance sheets. The Company records the grants as deferred grants and recognizes the benefit on a straight-line basis over the estimated depreciable life of the associated assets as a reduction in Cost of customer agreements and incentives. As described in the Solar Energy Systems, net section above, the estimated depreciable life of the associated assets was revised from 20 to 35 years in 2016.

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Notes to Consolidated Financial Statements — Continued

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.

Solar Energy Performance Guarantees

The Company guarantees to customers certain specified minimum solar energy production output for solar facilities over the initial term of the Customer Agreements. The Company monitors the solar energy systems to determine whether these specified minimum outputs are being achieved. Annually or every two years, depending on the terms of the Customer Agreement, the Company will refund a portion of electricity payments to a customer if his or her solar energy production output was less than the performance guarantee. The Company considers this a variable component that offsets the transaction price.

Derivative Financial Instruments

The Company recognizes all derivative instruments on the balance sheet at their fair value. Changes in the fair value of derivatives are recorded each period in current earnings or other comprehensive loss if a derivative is designated as part of a hedge transaction. The ineffective portion of the hedge, if any, is immediately recognized in earnings and are included in other expenses (income), net in the consolidated statements of operations.

The Company uses derivative financial instruments, primarily interest rate swaps, to manage its exposure to interest rate risks on its syndicated term loans, which are recognized on the balance sheet at their fair values. On the date that the Company enters into a derivative contract, the Company formally documents all relationships between the hedging instruments and the hedged items, as well as its risk management objective and strategy for undertaking each hedge transaction. Derivative instruments designated in a hedge relationship to mitigate exposure to variability in expected future cash flows, or other types of forecasted transactions, are considered cash flow hedges. Cash flow hedges are accounted for by recording the fair value of the derivative instrument on the balance sheet as either a freestanding asset or liability. Changes in the fair value of a derivative that is designated and qualifies as an effective cash flow hedge are recorded in accumulated other comprehensive loss, net of tax, until earnings are affected by the variability of cash flows of the hedged item. Any derivative gains and losses that are not effective in hedging the variability of expected cash flows of the hedged item or that do not qualify for hedge accounting treatment are recognized directly into income. At the hedge's inception and at least quarterly thereafter, a formal assessment is performed to determine whether changes in cash flows of the derivative instrument have been highly effective in offsetting changes in the cash flows of the hedged items and whether they are expected to be highly effective in the future. The Company discontinues hedge accounting prospectively when (i) it determines that the derivative is no longer effective in offsetting changes in the cash flows of a hedged item; (ii) the derivative expires or is sold, terminated, or exercised; or (iii) management determines that designating the derivative as a hedging instrument is no longer appropriate. In all situations in which hedge accounting is discontinued and the derivative remains outstanding, the derivative instrument is carried at its fair market value on the balance sheet with the changes in fair value recognized in current period earnings. The remaining balance in accumulated other comprehensive loss associated with the derivative that has been discontinued is not recognized in the income statement unless it is probable that the forecasted transaction will not occur. Such amounts are recognized in earnings when earnings are affected by the hedged transaction.

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:

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Notes to Consolidated Financial Statements — Continued

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, 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 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. The Company recognizes revenue evenly over the time that it satisfies its performance obligations over the initial term of the Customer Agreements. Customer Agreements typically have an initial term of 20 or 25 years. After the initial contract term, our Customer Agreements typically automatically renew on an annual basis and the rate is initially set at up to a 10% discount to then prevailing power prices.

SREC revenue arises from the sale of environmental credits generated by solar energy systems and is generally recognized upon delivery of the SRECs to the counterparty. For pass-through financing obligation Funds, the value attributable to the monetization of ITCs are recognized in the period a solar system is granted PTO - see Note 14, 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.

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Notes to Consolidated Financial Statements — Continued

Solar energy systems and product sales

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

Product sales consist of solar panels, racking systems, inverters, other solar energy products sold to resellers and customer leads. Product sales revenue is recognized at the time when control is transferred, upon shipment. 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. Upon adoption of Accounting Standards Update ("ASU") No. 2014-09, Revenue from Contracts with Customers ("Topic 606"), the Company no longer records initial direct costs from the origination of Customer Agreements. Instead, the Company records costs to obtain a contract as described in Revenue Recognition - Customer agreements and incentives above.

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.

Research and development Expense

Research and development expenses include personnel costs, allocated overhead costs, and other costs related to the development of our proprietary technology.

Stock-Based Compensation

The Company grants stock options and restricted stock units ("RSUs") for its equity incentive plan and employee stock purchase plan. Stock-based compensation to employees is measured based on the grant date fair value of the awards and recognized over the period during which the employee is required to perform services in exchange for the award (generally the vesting period of the award). The Company estimates the fair value of stock options and employee stock purchase plans awards granted using the Black-Scholes option-valuation model. Compensation cost is recognized over the vesting period of the applicable award using the straight-line method for those options expected to vest.

The Company also grants RSUs to non-employees that vest upon the satisfaction of both performance and service conditions. For RSUs granted to non-employees that vest upon the satisfaction of a performance condition, the Company starts recognizing expense on the RSUs when the performance condition is met.

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Notes to Consolidated Financial Statements — Continued

Noncontrolling Interests and Redeemable Noncontrolling Interests

Noncontrolling interests represent investors' interests in the net assets of the Funds that the Company has created to finance the cost of its solar energy systems subject to the Company's Customer Agreements. The Company has determined that the contractual provisions in the funding arrangements represent substantive profit sharing arrangements. The Company has further determined that the appropriate methodology for attributing income and loss to the noncontrolling interests and redeemable noncontrolling interests each period is a balance sheet approach referred to as the hypothetical liquidation at book value ("HLBV") method.

Under the HLBV method, the amounts of income and loss attributed to the noncontrolling interests and redeemable noncontrolling interests in the consolidated statements of operations reflect changes in the amounts the investors would hypothetically receive at each balance sheet date under the liquidation provisions of the contractual agreements of these arrangements, assuming the net assets of these funding structures were liquidated at recorded amounts. The Company's initial calculation of the investor's noncontrolling interest in the results of operations of these funding arrangements is determined as the difference in the noncontrolling interests' claim under the HLBV method at the start and end of each reporting period, after taking into account any capital transactions, such as contributions or distributions, between the Fund and the investors.

The Company classifies certain noncontrolling interests with redemption features that are not solely within the control of the Company outside of permanent equity on its consolidated balance sheets. Redeemable noncontrolling interests are reported using the greater of their carrying value as determined by the HLBV method or their estimated redemption value at each reporting date.

Income Taxes

The Company recognizes deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the consolidated financial statements and tax returns. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. Valuation allowances are provided against deferred tax assets to the extent that it is more likely than not that the deferred tax asset will not be realized. The Company is subject to the provisions of ASC 740, Income Taxes, which establishes consistent thresholds as it relates to accounting for income taxes. It defines the threshold for recognizing the benefits of tax return positions in the financial statements as "more likely than not" to be sustained by the taxing authority and requires measurement of a tax position meeting the more-likely-than-not criterion, based on the largest benefit that is more than 50% likely to be realized. Management has analyzed the Company's inventory of tax positions with respect to all applicable income tax issues for all open tax years (in each respective jurisdiction).

The Company sells solar energy systems to the Funds. As the Funds are consolidated by the Company, the gain on the sale of the solar energy systems is not recognized in the consolidated financial statements. However, this gain is recognized for tax reporting purposes. Since these transactions are intercompany sales, prior to January 1, 2017, any tax expense incurred related to these intercompany sales is deferred and recorded as a prepaid tax asset and amortized over the depreciable life of the underlying solar energy systems which has been estimated to be 35 years in accordance with ASC Topic 810. With the adoption of ASU 2016-16 on January 1, 2017 the Company reversed net prepaid tax assets of \$378.5 million and recorded the gross deferred tax assets associated with the historical intercompany sales of solar energy systems, which in turn reduced the deferred tax liabilities on investment in partnerships by \$378.2 million with the remaining \$0.3 million being recorded as a cumulative effect of adoption in the Company's Consolidated Statements of Redeemable Noncontrolling Interest and Stockholders' Equity. The adoption did not have an impact on the Company's Consolidated Statement of Operations.

The Company files tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal, state and local jurisdictions, where applicable. The statute of limitations for the tax returns varies by jurisdiction.

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Notes to Consolidated Financial Statements — Continued

Concentrations of Risk

Financial instruments which potentially subject the Company to concentrations of credit risk consist primarily of cash and accounts receivable, which includes rebates receivable. The associated risk of concentration for cash is mitigated by banking with institutions with high credit ratings. At certain times, amounts on deposit exceed Federal Deposit Insurance Corporation insurance limits. The Company does not require collateral or other security to support accounts receivable. To reduce credit risk, management performs periodic credit evaluations and ongoing evaluations of its customers' financial condition. Rebates receivable are due from various states and local governments as well as various utility companies. The Company considers the collectability risk of such amounts to be low. The Company is not dependent on any single customer. The Company's customers under Customer Agreements are primarily located in California, Arizona, New Jersey, Hawaii, New York and Massachusetts. The loss of a customer would not adversely impact the Company's operating results or financial position. The Company depends on a limited number of suppliers of solar panels and other system components. During the years ended December 31, 2018 and 2017, the solar materials purchases from the top five suppliers were approximately \$221.5 million and \$188.8 million, respectively.

Recently Issued and Adopted Accounting Standards

Accounting standards adopted January 1, 2018 causing recast of prior periods:

In May 2014, the FASB issued Topic 606. The standard establishes a single revenue recognition model for all contracts with customers, eliminates industry specific requirements, and expands disclosure requirements. The Company adopted Topic 606 effective January 1, 2018, using the full retrospective method, which required the Company to recast each prior reporting period presented. The Company has elected to use the practical expedient under Topic 606 and has excluded disclosures of transaction prices allocated to remaining performance obligations and when the Company expects to recognize such revenue for all periods prior to the date of initial application.

In February 2016, the FASB issued ASU No. 2016-02, Leases, to replace existing lease guidance with Accounting Standards Codification Topic 842 ("Topic 842"). Topic 842 changes how the definition of a lease is applied and judgment may be required in applying the definition of a lease to certain arrangements. The Company elected to early adopt the standard effective January 1, 2018 concurrent with the adoption of Topic 606 related to revenue recognition, using the modified retrospective approach at the beginning of the earliest comparative period presented in the financial statements, which required the Company to recast each prior reporting period presented. In July 2018, the FASB issued ASU No. 2018-10, Codification Improvements to Topic 842, Leases, to clarify how to apply certain aspects of the new leases standard. The clarifications address the rate implicit in the lease, impairment of the net investment in the lease, lessee reassessment of lease classification, lessor reassessment of lease term and purchase options, variable payments that depend on an index or rate and certain transition adjustments. These amendments have the same effective date and transition requirements as the new leases standard, as such the Company adopted the new ASU and the impact of adopting this standard was not material to its financial statements with respect to leases where the Company is the lessee.

Upon the adoption of Topic 842, the Company's Customer Agreements are accounted for under Topic 606 due to changes in the definition of a lease under Topic 842 when the Company was considered a lessor. For operating leases in which the Company is the lessee, the Company concluded that all existing operating leases under Accounting Standards Codification Topic 840 ("Topic 840"), Leases, continue to be classified as operating leases under Topic 842, and all existing capital leases under Topic 840 are classified as finance leases under Topic 842. The Company has lease agreements with lease and non-lease components, which are generally accounted for as a single lease component. The Company accounts for short-term leases on a straight-line basis over the lease term.

Under Topic 606, total consideration for Customer Agreements, including price escalators and performance guarantees, is estimated and recognized over the term of the Customer Agreement. This accounting for price escalators creates an unbilled receivable balance for the first half of the Customer Agreement, which is then reduced over the second half. Customer Agreements and SRECs with a prepaid element are deemed to include a significant financing component, as defined under Topic 606, which increases both revenue and interest expense. For pass-through financing obligation funds that report investment tax credit revenue, the ITC revenue is now recognized in full at PTO. SREC revenue is estimated net of any variable consideration related to possible

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Notes to Consolidated Financial Statements — Continued

liquidated damages, and recognized upon delivery of SRECs to the counterparty. The accounting did not materially differ for revenue currently recognized as solar energy systems and product sales. The adoption of Topic 606 also resulted in an adjustment to the Company's deferred tax liabilities, and impacted the analysis of the realizability of deferred tax assets, resulting in the release of valuation allowance related to state deferred tax assets.

In November 2016, the FASB issued ASU 2016-18, Statement of Cash Flows ("Topic 230"), Restricted Cash, which requires a statement of cash flows to present the change during the period in the total of cash, cash equivalents and amounts generally described as restricted cash and restricted cash equivalents. The Company adopted Topic 230 effective January 1, 2018, using the retrospective transition method, which required the Company to recast each prior reporting period presented. As a result, the Company no longer presents transfers between cash and restricted cash in the consolidated cash flow statements.

In August 2017, the FASB issued ASU No. 2017-12, Derivatives and Hedging, Targeted Improvements to Accounting for Hedging Activities, which expands an entity's ability to hedge nonfinancial and financial risk components, eliminates the requirement to separately measure and report hedge ineffectiveness, and aligned the recognition and presentation of the effects of hedging instruments in the financial statements. The Company adopted ASU 2017-12 effective October 1, 2018, with the retrospective adjustment applicable to prior periods included as a cumulative-effect adjustment to accumulated other comprehensive loss and retained earnings. The adoption of ASU 2017-12 did not have a material impact on the Company's consolidated financial statements.

In October 2018, the FASB issued ASU No. 2018-16, Derivatives and Hedging (Topic 815), Inclusion of the Secured Overnight Financing Rate ("SOFR") Overnight Index Swap ("OIS") Rate as a Benchmark Interest Rate for Hedge Accounting Purposes, which adds the OIS rate based on the SOFR as a benchmark interest rate for hedge accounting purposes. The Company adopted ASU 2018-16 on a prospective basis for qualifying new or redesignated hedging relationships entered into on or after October 1, 2018. The adoption of ASU 2018-16 did not have a material impact on the Company's consolidated financial statements.

Adjustments to Previously Reported Financial Statements from the Adoption of Accounting Standards

The primary impact of adopting Topic 606 and Topic 842 is on the recognition of revenue from Customer Agreements, and certain incentives revenue, namely SRECs and ITCs. Previously, under Topic 840, the Company recognized revenue related to certain Customer Agreements as contingent rent. Under Topic 606, because the Company has a continuous obligation to provide fully functional systems that provide electricity over the term of the Customer Agreement, it recognizes revenue evenly over the term of the Customer Agreements taking into account price escalators and performance guarantees when estimating variable consideration. Previously, the Company recognized revenue related to the sale of SRECs to the extent the cumulative value of delivered SRECs per contract exceeded any possible liquidated damages for non-delivery, if any. Under Topic 606, the Company estimates revenue net of any variable consideration related to possible liquidated damages, and recognizes revenue upon delivery of SRECs to the counterparty. Under Topic 605 and Topic 840, the Company previously reported ITC revenue over five years: following the point at which the related solar system was granted PTO, with one-fifth of the monetized ITCs recognized on each anniversary of the solar energy systems' PTO date. Under Topic 606, the Company recognizes ITC revenue in full at PTO. Previously, under Topic 840, the Company capitalized direct and incremental costs as a component of Solar energy systems, net on the consolidated balance sheets. Under Topic 606, 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.

In addition to the impact of revenue recognition related to Customer Agreements, the impact of adopting Topic 842 includes a change in accounting for leases when the Company is the lessee, primarily the inclusion of right-of use ("ROU") assets included in other assets on the consolidated balance sheets, and operating lease liabilities included in accrued expenses and other liabilities and other liabilities on the consolidated balance sheets. The income tax impact as a result of the adoption of Topic 842 was immaterial.

The following table presents the effect of the adoption of Topic 606 and Topic 842 on the Company's condensed consolidated balance sheet as of December 31, 2017 (in thousands):

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

	December 31, 2017		
	As Reported	Adoption Impact	As Recast
Accounts receivable, net of allowances for doubtful accounts	\$76,198	\$(15,839)	\$ 60,359
Solar energy systems, net	3,319,708	(158,138)	3,161,570
Other assets	37,225	209,239	246,464
Accrued expenses and other liabilities	85,639	11,591	97,230
Deferred revenue, current portion	77,310	(34,701)	42,609
Deferred grants, current portion	8,269	(76)	8,193
Pass-through financing obligation, current portion	6,087	(700)	5,387
Deferred revenue, net of current portion	584,427	(62,184)	522,243
Deferred grants, net of current portion	228,603	(1,084)	227,519
Pass-through financing obligation, net of current portion	138,124	(5,301)	132,823
Other liabilities	13,520	29,223	42,743
Deferred tax liabilities	59,131	23,988	83,119
Redeemable noncontrolling interests	123,737	64	123,801
Additional paid-in capital	684,141	(1,191)	682,950
Retained earnings	131,959	70,775	202,734
Noncontrolling interests	354,076	4,858	358,934

The following table presents the effect of the adoption of Topic 606 and Topic 842 on the Company's condensed consolidated statement of operations for the years ended December 31, 2017 and 2016 (in thousands except per share amounts):

	December 31, 2017			December 31, 2016		
	As Reported	Adoption Impact	As Recast	As Reported	Adoption Impact	As Recast
Revenue: Customer agreements and incentives	\$231,433	\$ 2,843	\$234,276	\$168,417	\$23,209	\$191,626
Cost of customer agreements and incentives	193,954	(7,519)	186,435	159,858	(5,614)	154,244
Sales and marketing	137,115	9,311	146,426	162,781	5,956	168,737
General and administrative	107,420	(20)	107,400	92,377	39	92,416
Interest expense, net	70,518	21,737	92,255	53,244	20,096	73,340
Income tax expense	32,138	(19,785)	12,353	35,993	20,270	56,263
Net loss	(286,734)	(881)	(287,615)	(303,301)	(17,538)	(320,839)
Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(411,259)	(1,845)	(413,104)	(394,988)	(980)	(395,968)
Net income attributable to common stockholders	124,525	964	125,489	91,687	(16,558)	75,129
Basic net income per share attributable to common stockholders	1.18	0.01	1.19	0.90	(0.17)	0.73
Diluted net income per share attributable to common stockholders	1.15	0.01	1.16	0.87	(0.15)	0.72

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

The following table presents the effect of the adoption of Topic 230, Topic 606 and Topic 842 on the Company's condensed consolidated statement of cash flows for the years ended December 31, 2017 and 2016 (in thousands):

	December 31, 2017			December 31, 2016		
	As Reported	Adoption Impact	As Recast	As Reported	Adoption Impact	As Recast
Net loss	\$(286,734)	\$(881)	\$(287,615)	\$(303,301)	\$(17,538)	\$(320,839)
Net cash used in operating activities	(61,011)	(35,092)	(96,103)	(150,580)	(49,561)	(200,141)
Net cash used in investing activities	(812,327)	35,008	(777,319)	(745,112)	49,310	(695,802)
Net cash provided by financing activities	869,499	21,350	890,849	898,192	953	899,145
Net change in cash and restricted cash ⁽¹⁾	(3,839)	21,266	17,427	2,500	702	3,202
Cash and restricted cash, beginning of period ⁽¹⁾	206,364	17,999	224,363	203,864	17,297	221,161
Cash and restricted cash, end of period ⁽¹⁾	202,525	39,265	241,790	206,364	17,999	224,363

⁽¹⁾ Pursuant to Topic 230, restricted cash is included in the recasted balances in the statement of cash flows, as described above. The amounts in the previously reported column include only cash.

Accounting standards to be adopted:

In June 2016, the FASB issued ASU No. 2016-13, Measurement of Credit Losses on Financial Instruments, which replaces the current incurred loss impairment methodology with a current expected credit losses model. The amendment applies to entities which hold financial assets and net investment in leases that are not accounted for at fair value through net income as well as loans, debt securities, trade receivables, net investments in leases, off-balance sheet credit exposures, reinsurance receivables and any other financial assets not excluded from the scope that have the contractual right to receive cash. This ASU is effective for fiscal years beginning after December 15, 2019 and interim periods within those fiscal years. Early adoption is permitted. Adoption of this ASU is applied using a modified retrospective approach, with certain aspects requiring a prospective approach. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements. In November 2018, the FASB issued ASU No. 2018-19, Codification Improvements to Topic 326, Financial Instruments- Credit Losses, which clarifies that operating lease receivables are not within the scope of Topic 326, but rather operating lease receivables will be tested for impairment under Topic 842.

In June 2018, the FASB issued ASU No. 2018-07, Compensation - Stock Compensation (Topic 718), Improvements to Nonemployee Share-Based Payment Accounting, which is intended to align the accounting for share-based payment awards issued to employees and nonemployees, however, this amendment does not apply to instruments issued in a financing transaction nor to equity instruments granted to a customer under a contract in the scope of Topic 606. Currently, performance conditions are recognized once the performance conditions are met. Under this new amendment, equity-classified nonemployee share-based payments will be measured at the grant-date fair value and will be recognized based on the probable outcome of the performance conditions. This ASU is effective for fiscal periods beginning after December 15, 2018. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements.

In July 2018, the FASB issued ASU No. 2018-09, Codification Improvements. This amendment makes changes to a variety of topics to clarify, correct errors in, or make minor improvements to the Accounting Standards Codification. The majority of the amendments in ASU 2018-09 are effective for periods beginning after December 15, 2018. The Company is currently evaluating this guidance and the impact it may have on the Company's consolidated financial statements.

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

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

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

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

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

Note 3. Acquisition

Clean Energy Experts, LLC

In April 2015, the Company acquired Clean Energy Experts, LLC, a consumer demand and solar lead generation company, for \$25.0 million in cash and 1.9 million shares of common stock valued at \$19.1 million, net of settlement of a preexisting payable to CEE. Of this amount, \$15.0 million in cash was paid and 1.4 million shares were issued in April 2015. The remaining \$10.0 million in cash and 500,000 shares were paid and issued as follows: \$5.0 million was paid and 250,000 shares were issued in October 2015 and \$5.0 million was paid and 250,000 shares were issued in April 2016. An additional \$8.8 million in cash and 599,999 shares of common stock were issued on April 1, 2017 due to the achievement of certain sales targets as well as continued employment of certain key employees acquired in the transaction, which was recorded as compensation expense. The acquisition is expected to enhance the Company's efficient and consistent access to high-quality leads in existing and new markets.

Note 4. Fair Value Measurement

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

At December 31, 2018 and 2017, 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):

	December 31, 2018		December 31, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Bank line of credit	\$247,000	\$247,000	\$247,000	\$247,000
Senior debt	828,517	828,309	808,455	807,698
Subordinated debt	273,337	272,937	111,488	111,095
Securitization debt	400,068	394,756	95,821	96,999
SREC Loans	—	—	32,181	32,183
Total	\$1,748,922	\$1,743,002	\$1,294,945	\$1,294,975

At December 31, 2018 and 2017, the fair value of the Company's lines of credit, and certain senior, subordinated, and SREC loans approximate their carrying values because their interest rates are variable rates that approximate rates currently available to the Company. At December 31, 2018 and 2017, the fair value of the Company's other debt instruments are based on rates currently offered for debt with similar maturities and terms. The Company's fair value of the debt instruments fell under the Level 2 hierarchy. These valuation approaches involve some level of management estimation and judgment, the degree of which is dependent on the price transparency for the instruments or market.

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

At December 31, 2018 and 2017, financial instruments measured at fair value on a recurring basis, based upon the fair value hierarchy are as follows (in thousands):

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

Derivative liabilities:			
Interest rate swaps	—	\$11,910	\$11,910
Total	\$—	\$11,910	\$11,910

	December 31, 2017		
	Level 1	Level 2	Level 3 Total
Derivative assets:			
Interest rate swaps	—	\$1,917	\$1,917
Total	\$—	\$1,917	\$1,917

Derivative liabilities:			
Interest rate swaps	—	\$8,568	\$8,568
Total	\$—	\$8,568	\$8,568

Note 5. Inventories

Inventories consist of the following (in thousands):

Sunrun Inc.

Notes to Consolidated Financial Statements — Continued

	December 31,	
	2018	2017
Raw materials	\$64,256	\$87,927
Work-in-process	15,211	6,500
Total	\$79,467	\$94,427

Note 6. Solar Energy Systems, net

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

	December 31,	
	2018	2017
Solar energy system equipment costs	\$3,823,853	\$3,124,407
Inverters	396,054	317,390
Total solar energy systems	4,219,907	3,441,797
Less: accumulated depreciation and amortization	(535,891)	(399,280)
Add: construction-in-progress	136,001	119,053
Total solar energy systems, net	\$3,820,017	\$3,161,570

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 \$139.2 million, \$112.8 million and \$87.7 million for the years ended December 31, 2018, 2017 and 2016, respectively. The depreciation expense was reduced by the amortization of deferred grants of \$7.8 million, \$7.6 million and \$13.0 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Note 7. Property and Equipment, net

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

	December 31,	
	2018	2017
Machinery and equipment	\$6,888	\$4,126
Leasehold improvements, furniture, and computer hardware	14,755	13,709
Vehicles	55,093	43,413
Computer software	32,768	30,483
Total property and equipment	109,504	91,731
Less: Accumulated depreciation and amortization	(74,611)	(55,329)
Total property and equipment, net	\$34,893	\$36,402

Depreciation and amortization expense was \$20.4 million, \$19.5 million and \$18.8 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Note 8. Goodwill and Intangible Assets, net

The goodwill and intangible assets were acquired as part of the acquisition of Mainstream Energy Corporation, which included AEE Solar and its racking business SnapNrack, and Clean Energy Experts, LLC.

The Company performs its annual impairment test of goodwill on October 1 of each fiscal year or whenever events or circumstances change or occur that would indicate that goodwill might be impaired. The Company has determined that it has one reporting unit.

There was no impairment of goodwill during the years ended December 31, 2018, 2017 and 2016, respectively.

Intangible assets, net as of December 31, 2018 consist of the following (in thousands, except weighted average remaining life):

	Cost	Accumulated amortization	Carrying value	Weighted average remaining life (in years)
Customer relationships	\$14,660	\$ (7,716)	\$6,944	4.6
Developed technology	6,820	(5,328)	1,492	1.2
Trade names	6,990	(5,338)	1,652	4.1
Total	\$28,470	\$ (18,382)	\$10,088	

Intangible assets, net as of December 31, 2017 consist of the following (in thousands, except weighted average remaining life):

	Cost	Accumulated amortization	Carrying value	Weighted average remaining life (in years)
Customer relationships	\$14,660	\$ (6,017)	\$8,643	5.5
Developed technology	6,820	(3,963)	2,857	2.2
Trade names	6,990	(4,196)	2,794	4.0
Total	\$28,470	\$ (14,176)	\$14,294	

The Company recorded amortization of intangible assets expense of \$4.2 million, \$4.2 million and \$4.2 million for the years ended December 31, 2018, 2017 and 2016, respectively. As of December 31, 2018, expected amortization of intangible assets for each of the five succeeding fiscal years and thereafter is as follows (in thousands):

2019	\$3,335
2020	2,143
2021	1,750
2022	1,743
2023	1,049

Thereafter 68

Total \$10,088

Note 9. Other Assets

Other assets consist of the following (in thousands):

	December 31, 2018	December 31, 2017
Costs to obtain contracts	\$219,307	\$157,970
Accumulated amortization of costs to obtain contracts	(24,992)	(16,485)
Unbilled receivables	81,703	51,710
Operating lease right-of-use assets	20,257	25,465
Other assets	39,410	27,804
Total	\$335,685	\$246,464

The Company recorded amortization of costs to obtain contracts of \$8.6 million and \$6.5 million for the years ended December 31, 2018 and 2017, respectively, in the sales and marketing expense.

The majority of unbilled receivables arise from fixed price escalators included in our 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.

Note 10. Accrued Expenses and Other Liabilities

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

	December 31,	
	2018	2017
Accrued employee compensation	\$39,738	\$30,298
Operating lease obligations	7,857	9,202
Accrued interest	8,436	6,054
Accrued professional fees	9,199	5,837
Other accrued expenses	33,406	45,839
Total	\$98,636	\$97,230

Note 11. Cash Equity Financing

In December 2016, the Company pooled and transferred its interests in certain financing funds into a special purpose entity ("SPE") with a new investor. The Company has determined that the SPE is a variable interest entity and that the Company is the primary beneficiary of the SPE by reference to the power and benefits criterion under ASC 810, Consolidation. Accordingly, the Company consolidates the SPE in its consolidated financial statements and accounts for the investor's equity interest in the SPE as a noncontrolling interest (see Note 15, VIE Arrangements). The Company did not recognize a gain or loss on the transfer of its interests in the financing funds and continues to consolidate the financing funds. The SPE's assets and cash flows are not available to the other creditors of the Company, and the investor has no recourse to the Company's other assets.

Note 12. Indebtedness

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

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

⁽¹⁾ Reflects contractual, unhedged rates. See Note 13, Derivatives for hedge rates.

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Notes to Consolidated Financial Statements — Continued

As of December 31, 2017, debt consisted of the following (in thousands, except percentages):

	Carrying Values, net of debt discount			Unused Borrowing Capacity	Interest Rate ⁽¹⁾	Maturity Date
	Current	Long Term	Total			
Recourse debt:						
Bank line of credit	\$—	\$247,000	\$247,000	\$ 406	4.58% - 4.87%	April 2018
Total recourse debt	—	247,000	247,000	406		
Non-recourse debt:						
Senior	3,561	804,894	808,455	12,758	3.63% - 4.69%	September 2020 - October 2024
Subordinated	4,301	107,187	111,488	27	6.36% - 7.13%	September 2020 - October 2024
Securitization Class A	3,534	82,203	85,737	—	4.40	% July 2024
Securitization Class B	440	9,644	10,084	—	5.38	% July 2024
SREC Loans	9,693	22,488	32,181	—	7.28	% July 2021
Total non-recourse debt	21,529	1,026,416	1,047,945	12,785		
Total debt	\$21,529	\$1,273,416	\$1,294,945	\$ 13,191		

⁽¹⁾ Reflects contractual, unhedged rates. See Note 13, Derivatives for hedge rates.

Bank Line of Credit

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

Under the terms of the working capital facility, the Company is required to meet various restrictive covenants, such as the completion and presentation of audited consolidated financial statements, maintaining a minimum unencumbered liquidity of at least \$25.0 million at the end of each calendar month, maintaining quarter end liability to be at least \$30.0 million, and maintaining a minimum interest coverage ratio of 3.00 or greater, measured quarterly as of the last day of each quarter. The Company was in compliance with all debt covenants as of December 31, 2018. As of December 31, 2018, the balance under this facility was \$247.0 million with a maturity date in April 2020.

Syndicated Credit Facilities

Each of the Company's syndicated credit facilities contain customary covenants including the requirement to maintain certain financial measurements and provide lender reporting. Each of the syndicated credit facilities also contain certain provisions in the event of default which 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 credit facilities. The facilities are non-recourse to the Company and are secured by net cash flows from Customer Agreements less certain operating, maintenance and other expenses which are available to the borrower after distributions to tax equity investors. The Company was in compliance with all debt covenants as of December 31, 2018.

As of December 31, 2018, certain subsidiaries of the Company have an outstanding balance of \$282.7 million on secured credit facilities that were syndicated with various lenders due in October 2024. The credit facilities totaled \$303.0 million and consisted of \$293.0 million in term loans, and a \$10.0 million revolving debt service reserve letter of credit facility. Term Loan A ("TLA") is a senior delayed draw term loan that bears interest at LIBOR

+2.75% per annum for LIBOR loans or the Base Rate +1.75% per annum on Base Rate loans. Term Loan B ("TLB") is subordinated debt and consists of a Class A portion which accrues interest at a fixed interest rate of 7.03% per annum and a Class B portion which accrues interest at LIBOR +5.00% per annum or the Base Rate +4.00% per annum. The Base Rate is the highest of the Federal Funds Rate +0.50%, the Prime Rate, or LIBOR

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Notes to Consolidated Financial Statements — Continued

+1.00%. Under TLA, prepayments are permitted with no penalties. Under TLB, prepayments are permitted with associated penalties ranging from 0% - 5% depending on the timing of prepayments.

As of December 31, 2018, certain subsidiaries of the Company have an outstanding balance of \$184.4 million on senior secured credit facilities that were syndicated with various lenders due in April 2024. These facilities are subject to the National Grid cash equity transaction. The credit facilities totaled \$202.0 million and consisted of a \$195.0 million senior delayed draw term loan facility and a \$7.0 million revolving debt service reserve letter of credit facility. Loans under the facility bear interest at LIBOR +2.25% per annum for the initial four-year period for LIBOR loans or the Base Rate +1.25% per annum for Base Rate Loans. The Base Rate is the highest of the Federal Funds Rate +0.50%, the Prime Rate, or LIBOR +1.00%. The facilities are non-recourse to the Company and are secured by net cash flows from Customer Agreements and SRECs, less certain operating, maintenance and other expenses which are available to the borrower after distributions to tax equity investors. Prepayments are permitted under the delayed draw term loan facility.

As of December 31, 2018, certain subsidiaries of the Company have an outstanding balance of \$316.2 million on secured credit facilities agreements, as amended, with a syndicate of banks due in March 2023. The facilities totaled \$595.0 million and consisted of a revolving aggregation facility ("Aggregation Facility"), a term loan ("Term Loan") and a revolving debt service reserve letter of credit facility. Senior loans under the Aggregation Facility bear interest at LIBOR +2.50% per annum for the initial three-year revolving availability period, stepping up to LIBOR +2.75% per annum in the following two-year period. The subordinated Term Loan bears interest at LIBOR +5.00% per annum for the first three-year period, stepping up to LIBOR +6.50% per annum thereafter. Term Loan prepayment penalties range from 0% - 1% depending on the timing of prepayments.

Senior Debt

Each of the Company's senior debt facilities contains customary covenants including the requirement to maintain certain financial measurements and provide lender reporting. Each of the senior debt facilities also contain certain provisions in the event of default which 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 debt facilities. The facilities are non-recourse to the Company and are secured by net cash flows from Customer Agreements less certain operating, maintenance and other expenses which are available to the borrower after distributions to tax equity investors, where applicable. The Company was in compliance with all debt covenants as of December 31, 2018.

As of December 31, 2018, a subsidiary of the Company has an outstanding balance of \$162.4 million on a revolving loan facility due in September 2020. The facility is secured by the assets and related net cash flow of this subsidiary and is non-recourse to the Company's other assets. Loans under the facility bear interest at LIBOR +2.75% per annum for the senior secured loan, and LIBOR +5.50% per annum for the subordinated loan.

As of December 31, 2018, a subsidiary of the Company has an outstanding balance of \$20.8 million on a term loan due in April 2022. The loan is secured by the assets and related net cash flow of this subsidiary and is non-recourse to the Company's other assets.

As of December 31, 2018, a subsidiary of the Company has an outstanding balance of \$16.8 million on a secured, non-recourse loan agreement due in September 2022. The loan will be repaid through cash flows from a lease pass-through arrangement previously entered into by the Company. The loan agreement contains customary covenants including the requirement to maintain certain financial measurements and provide lender reporting. The loan also contains certain provisions in the event of default which entitles the lender to take certain actions including acceleration of amounts due under the loan. Loans under this facility bear interest at LIBOR +2.25% per annum.

As of December 31, 2018, a subsidiary of the Company has an outstanding balance of \$118.6 million on a term loan due in January 2030. The loan is secured by the assets and related net cash flow of this subsidiary and is non-recourse to the Company's other assets.

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

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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 which are available to the borrower after distributions to tax equity investors, where applicable. The Company was in compliance with all debt covenants as of December 31, 2018.

As of December 31, 2018, a subsidiary of the Company has an outstanding balance of \$90.2 million on solar asset-backed notes ("Notes") secured by associated customer contracts ("Solar Assets") held by a special purpose entity ("Issuer"). As of December 31, 2018 and December 31, 2017, these Solar Assets had a carrying value of \$164.7 million and \$172.8 million, respectively, and are included under solar energy systems, net, in the consolidated balance sheets. The Notes were issued at a discount of 0.08%.

In connection with the transaction, the Company modified two pass-through arrangements with an investor. The modified pass-through arrangements require the majority of the cash flows generated by the Solar Assets to be passed on to the Issuer through monthly payments from the Fund investor. Those cash flows are used to service the monthly principal of the Notes and interest payments and satisfy the Issuer's expenses, and any residual cash flows are retained by the Fund investor and recorded as a reduction in the remaining financing obligation. The Company recognizes revenue earned from the associated Customer Agreements in accordance with the Company's revenue recognition policy. The assets and cash flows generated by the Solar Assets are not available to the other creditors of the Company, and the creditors of the Issuer, including the Note holders, have no recourse to the Company's other assets. As of December 31, 2018, a subsidiary of the Company has an outstanding balance of \$309.8 million on solar asset-backed notes ("Notes") secured by associated customer contracts ("Solar Assets") held by a special purpose entity ("Issuer"). As of December 31, 2018, these Solar Assets had a carrying value of \$72.0 million and are included under solar energy systems, net, in the consolidated balance sheets. The Notes were issued at a discount of 1.47%. The assets and cash flows generated by the Solar Assets are not available to the other creditors of the Company, and the creditors of the Issuer, including the Note holders, have no recourse to the Company's other assets.

Notes Payable

The scheduled maturities of debt, excluding debt discount, as of December 31, 2018 are as follows (in thousands):

2019	\$38,673
2020	418,572
2021	70,425
2022	66,463
2023	277,591
Thereafter	906,955
Subtotal	1,778,679
Less: Debt discount (29,757)	
Total	\$1,748,922

Note 13. Derivatives

Interest Rate Swaps

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

The interest rate swaps have been designated as cash flow hedges. The credit risk adjustment associated with these swaps is the risk of non-performance by the counterparties to the contracts. In the year ended

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December 31, 2018, the hedge relationships on the Company's interest rate swaps have been assessed as highly effective as the critical terms of the interest rate swaps match the critical terms of the underlying forecasted hedged transactions. Accordingly, changes in the fair value of these derivatives are recorded as a component of accumulated other comprehensive income, net of income taxes. Changes in the fair value of these derivatives are subsequently reclassified into earnings, and are included in interest expense, net in the Company's statements of operations, in the period that the hedged forecasted transactions affects earnings.

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

	Year Ended December 31,		
	2018	2017	2016
Derivatives designated as cash flow hedges:			
(Loss) gain in OCI at the beginning of the period	\$(4,113)	\$437	\$(921)
Unrealized gain (loss) recognized in OCI ⁽¹⁾	6,187	(5,694)	335
Less: (Loss) gain reclassified from OCI to earnings ⁽²⁾	(2,132)	1,144	1,023
Less: Cumulative effect of adoption of new ASU (No. 2017-12) ⁽³⁾	1,992	—	—
Less: Gain reclassified from OCI to Other expenses (income) in earnings (swap terminations) ⁽⁴⁾	(5,058)	—	—
Net gain (loss) on derivatives	989	(4,550)	1,358
(Loss) gain in OCI at the end of the period	\$(3,124)	\$(4,113)	\$437

⁽¹⁾ Net of tax (expense) benefit of \$(2,415), \$3,611, \$(220) as of December 31, 2018, 2017 and 2016, respectively.

⁽²⁾ Net of tax benefit (expense) of \$897, \$(725), \$(644) as of December 31, 2018, 2017 and 2016, respectively.

⁽³⁾ Net of tax (expense) of \$(687) as of December 31, 2018.

⁽⁴⁾ Net of tax benefit of \$1,847 as of December 31, 2018.

During the next 12 months, the Company expects to reclassify \$1.0 million of net gains on derivative instruments from accumulated other comprehensive income to earnings. There were no undesignated derivative instruments recorded by the Company as of December 31, 2018.

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

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

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At December 31, 2017, the Company had designated derivative instruments classified as hedges of variable interest payments as derivative assets that are reported in other assets of \$1.9 million and derivative liabilities as reported in other liabilities of \$8.6 million in the Company's balance sheet. At December 31, 2018 the Company had the following derivative instruments (dollars in thousands):

Type	Quantity	Effective Dates	Maturity Dates	Hedge Interest Rates	Notional Amount	Adjusted Fair Market Value
Interest rate swap	1	5/21/2018	9/20/2020	2.69%	\$80,453	\$(254)
Interest rate swap	1	4/29/2016	8/31/2022	1.27% - 1.29%	13,660	444
Interest rate swaps	10	7/31/2017 - 1/31/2019	4/30/2024 - 10/31/2024	2.16% - 2.69%	346,867	3,201
Interest rate swaps	3	4/30/2021	10/30/2026 - 10/31/2026	2.89% - 3.08%	102,720	(1,895)
Interest rate swap	1	10/22/2018	9/20/2027	2.97%	30,182	(669)
Interest rate swap	1	9/20/2020	6/20/2030	2.57%	67,013	(95)
Interest rate swap	1	9/20/2020	1/20/2031	2.61%	9,899	57
Interest rate swaps	5	1/31/2019 - 10/31/2024	7/31/2034	2.48% - 3.04%	144,379	1,049
Interest rate swaps	5	7/31/2017 - 4/30/2024	7/31/2035	2.56% - 2.95%	151,778	658
Interest rate swaps	5	1/31/2018 - 10/18/2024	10/31/2036	2.62% - 2.95%	183,529	648
Interest rate swaps	4	1/31/2019 - 4/30/2021	4/30/2037	3.25% - 3.30%	150,000	(7,268)
Interest rate swaps	3	10/30/2026 - 10/31/2026	1/31/2038	3.01% - 3.16%	101,135	(828)
Total					\$1,381,615	\$(4,952)

Note 14. Pass-Through Financing Obligations

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

Under these financing obligation arrangements, wholly owned subsidiaries of the Company finance the cost of solar energy systems with investors for an initial term of typically 20 or 25 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 December 31, 2018 and 2017, the cost of the solar energy systems placed in service under the financing obligation arrangements was \$664.1 million and \$464.2 million, respectively. The accumulated depreciation related to these assets as of December 31, 2018 and 2017 was \$82.1 million and \$63.7 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

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

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

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

In one financing obligation arrangement, the investor has a right, on June 30, 2019, to purchase all of the systems leased at a price equal to the higher of (a) the sum of the present value of the expected remaining lease payments due by the investor, discounted at 5%, and the fair market value of the Company's residual interest in the systems as determined through independent valuation or (b) a set value per kilowatt applied to the aggregate size of all leased systems.

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

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Note 15. VIE Arrangements

The Company consolidated various VIEs at December 31, 2018 and 2017. The carrying amounts and classification of the VIEs' assets and liabilities included in the consolidated balance sheets are as follows (in thousands):

	December 31,	
	2018	2017
Assets		
Current assets		
Cash	\$105,494	\$118,352
Restricted cash	2,071	2,699
Accounts receivable, net	18,539	18,786
Prepaid expenses and other current assets	387	917
Total current assets	126,491	140,754
Solar energy systems, net	2,712,377	2,385,329
Other assets	66,427	42,295
Total assets	\$2,905,295	\$2,568,378
Liabilities		
Current liabilities		
Accounts payable	\$12,136	\$15,929
Distributions payable to noncontrolling interests and redeemable noncontrolling interests	15,797	13,526
Accrued expenses and other liabilities	7,122	5,200
Deferred revenue, current portion	29,102	28,695
Deferred grants, current portion	982	1,021
Non-recourse debt, current portion	4,217	11,179
Total current liabilities	69,356	75,550
Deferred revenue, net of current portion	367,818	381,066
Deferred grants, net of current portion	28,247	29,385
Non-recourse debt, net of current portion	186,494	190,106
Other liabilities	8,843	1,848
Total liabilities	\$660,758	\$677,955

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 14, 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 16. Redeemable Noncontrolling Interests

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 six Funds at both December 31, 2018 and 2017, where the carrying value has been adjusted to the redemption value.

Note 17. Stockholders' Equity

Convertible Preferred Stock

The Company did not have any convertible preferred stock issued and outstanding as of December 31, 2018 and 2017. The Company has not declared or paid any dividends in 2018, 2017 or 2016.

Common Stock

The Company has reserved sufficient shares of common stock for issuance upon the exercise of stock options and the exercise of warrants. Common stockholders are entitled to dividends if and when declared by the board of directors, subject to the prior rights of the preferred stockholders. As of December 31, 2018, no common stock dividends had been declared by the board of directors.

The Company has reserved shares of common stock for issuance as follows (in thousands):

December 31,
2018 2017

Stock plans

Shares available for grant

2015 Equity Incentive Plan	11,986	8,857
2015 Employee Stock Purchase Plan	5,202	3,970
Options outstanding	13,590	16,268
Restricted stock units outstanding	4,182	5,330
Total	34,960	34,425

Note 18. Stock-Based Compensation

MEC 2009 Stock Plan

In connection with the MEC acquisition in February 2014, the Company assumed nonstatutory stock options granted under the Mainstream Energy Corporation 2009 Stock Plan (the "MEC Plan") held by MEC employees who continued employment with the Company after the closing and converted them into options to purchase shares of the Company's common stock. The MEC Plan was terminated on the closing of the acquisition but the outstanding awards under the MEC Plan that the Company assumed in the acquisition will continue to be governed by their existing terms. As of December 31, 2018, options to purchase 262,971 shares of the Company's common stock remained outstanding under the MEC Plan.

2013 Equity Incentive Plan

In July 2013, the Board of Directors approved the 2013 Plan. In March 2015, the Board of Directors authorized an additional 3,000,000 shares reserved for issuance under the 2013 Plan. An aggregate of 4,500,000 shares of common stock are reserved for issuance under the 2013 Plan plus (i) any shares that were reserved but not issued under the plan that was previously in place, and (ii) any shares subject to stock options or similar awards granted under the plan that was previously in place that expire or otherwise terminate without having been exercised in full and shares issued that are forfeited to or repurchased by the Company, with the maximum number of shares to be added to the 2013 Plan pursuant to clauses (i) and (ii) equal to 8,044,829 shares. Stock options granted to employees generally have a maximum term of ten-years and vest over a four-year period from the date of grant; 25% vest at the end of one year, and 75% vest monthly over the remaining three years. The options may include provisions permitting exercise of the option prior to full vesting. Any unvested shares shall be subject to repurchase by the Company at the original exercise price of the option in the event of a termination of an optionee's

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employment prior to vesting. All the remaining shares that were available for future grants under the 2013 Plan were transferred to the 2015 Equity Incentive Plan (“2015 Plan”) at the inception of the 2015 Plan. As of December 31, 2018, the Company had not granted restricted stock or other equity awards (other than options) under the 2013 Plan.

2014 Equity Incentive Plan

In August 2014, the Board approved the 2014 Equity Incentive Plan (“2014 Plan”). An aggregate of 947,342 shares of common stock are reserved for issuance under the 2014 Plan. The 2014 Plan was adopted to accommodate a broader transaction with a sales entity and to allow for similar transactions in the future. In July 2015, the Board approved an increase in the number of shares of common stock reserved to 1,197,342. As of July 2015, the Company granted all 1,197,342 restricted stock units (“RSUs”) available under the 2014 Plan.

2015 Equity Incentive Plan

In July 2015, the Board approved the 2015 Plan. An aggregate of 11,400,000 shares of common stock are reserved for issuance under the 2015 Plan plus (i) any shares that were reserved but not issued under the 2013 Plan at the inception of the 2015 Plan, and (ii) any shares subject to stock options or similar awards granted under the 2008 Plan, 2013 Plan and 2014 Plan that expire or otherwise terminate without having been exercised in full and shares issued that are forfeited to or repurchased by the Company, with the maximum number of shares to be added to the 2015 Plan pursuant to clauses (i) and (ii) equal to 15,439,334 shares. The 2015 Plan provides for annual automatic increases on January 1 to the shares reserved for issuance. The automatic increase of the number of shares available for issuance under the 2015 Plan is equal to the least of 10 million shares, 4% of the outstanding shares of common stock as of the last day of our immediately preceding fiscal year or such other amount as the Board of Directors may determine. In 2018 and 2017, the Board of Directors authorized an additional 4,294,010 and 4,172,883 shares reserved for issuance under the 2015 Plan, respectively. Stock options granted to employees generally have a maximum term of ten-years and vest over a four-year period from the date of grant; 25% vest at the end of one year, and 75% vest monthly over the remaining three years. The options may include provisions permitting exercise of the option prior to full vesting. Any unvested shares shall be subject to repurchase by the Company at the original exercise price of the option in the event of a termination of an optionee’s employment prior to vesting. RSUs granted to employees generally vest over a four-year period from the date of grant; 25% vest at the end of one year, and 75% vest quarterly over the remaining three years.

Stock Options

The following table summarizes the activity for all stock options under all of the Company’s equity incentive plans for the years ended December 31, 2018 and 2017 (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, 2016	12,897	\$ 5.94	7.49	\$ 9,625
Granted	5,266	5.17		
Exercised	(687)	2.96		
Cancelled	(1,208)	7.62		
Outstanding at December 31, 2017	16,268	5.70	7.41	\$ 14,832
Granted	1,529	8.63		
Exercised	(3,271)	5.23		
Cancelled	(936)	6.63		
Outstanding at December 31, 2018	13,590	\$ 6.07	6.63	\$ 66,462
Options vested and exercisable at December 31, 2018	7,974	\$ 5.64	5.52	\$ 42,504
Options vested and expected to vest at December 31, 2018	13,590	\$ 6.07	6.63	\$ 66,462

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Notes to Consolidated Financial Statements — Continued

There were 276,660 unvested exercisable shares as of the years ended December 31, 2018 and 2017, which are subject to a repurchase option held by the Company at the original exercise price. These exercisable but unvested shares have a weighted average remaining vesting period of less than a year. There was no exercise of unvested options in the year ended December 31, 2018 and 2017.

The weighted-average grant-date fair value of stock options granted during the year ended December 31, 2018, 2017 and 2016 were \$4.21, \$2.57 and \$2.26 per share, respectively. The total intrinsic value of the options exercised during the year ended December 31, 2018, 2017 and 2016 was \$21.4 million, \$2.3 million and \$6.3 million, respectively. The aggregate intrinsic value is the difference of the current fair value of the stock and the exercise price for in-the-money stock options. The total fair value of options vested during the year ended December 31, 2018, 2017 and 2016 was \$8.8 million, \$7.5 million and \$9.8 million, respectively.

The Company estimates the fair value of stock-based awards on their grant date using the Black-Scholes option-pricing model. The Company estimates the fair value using a single-option approach and amortizes the fair value on a straight-line basis for options expected to vest. All options are amortized over the requisite service periods of the awards, which are generally the vesting periods.

The Company estimated the fair value of stock options with the following assumptions:

	Year Ended December 31,		
	2018	2017	2016
Risk-free interest rate	2.72% - 2.92%	1.88% - 2.22%	1.18% - 2.23%
Volatility	44.87% - 54.61%	45.95% - 50.52%	36.00% - 49.64%
Expected term (in years)	6.09 - 6.11	5.94 - 6.08	5.00 - 6.26
Expected dividend yield	0.00	% 0.00	% 0.00

The expected term assumptions were determined based on the average vesting terms and contractual lives of the options. The risk-free interest rate is based on the rate for a U.S. Treasury zero-coupon issue with a term that approximates the expected life of the option grant. For stock options granted in the year ended December 31, 2018, 2017 and 2016, the Company considered the volatility data of a group of publicly traded peer companies in its industry. The Company accounts for forfeitures as they occur and, as such, reverses compensation cost previously recognized in the period the award is forfeited, for an award that is forfeited before completion of the requisite service period.

Restricted Stock Units

In 2014, the Company granted a total of 947,342 RSUs subject to certain performance targets to a third party partner. As of December 31, 2017, 350,000 outstanding RSUs had a performance feature that is required to be satisfied before the option is vested. In March 2018, the Company amended the terms of all of these RSUs, such that the RSUs are deemed earned subject to a clawback provision that requires the holder of the RSUs to either forfeit all the RSUs or pay the Company repayment value for all RSUs that are not forfeited if the third party breaches the exclusivity provision of the parties' commercial agreement. The exclusivity clawback provision for all of the RSUs expires in September 2019.

The performance-based provision is considered substantive. As a result, the Company recognizes expense once the performance targets are met. The first performance target was met in 2015. The Company recognized \$3.5 million, \$0.8 million and \$1.2 million compensation expense in the years ended December 31, 2018, 2017 and 2016 upon certain performance targets being met.

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The following table summarizes the activity for all RSUs under all of the Company's equity incentive plans for the years ended December 31, 2018 and 2017 (shares in thousands):

	Shares	Weighted Average Grant Date Fair Value
Unvested balance at December 31, 2016	4,106	\$ 6.87
Granted	3,540	5.30
Issued	(1,115)	7.36
Cancelled / forfeited	(1,201)	5.81
Unvested balance at December 31, 2017	5,330	5.82
Granted	2,019	8.75
Issued	(1,720)	6.36
Cancelled / forfeited	(1,447)	5.75
Unvested balance at December 31, 2018	4,182	\$ 7.05

Employee Stock Purchase Plan

Under the Company's 2015 Employee Stock Purchase Plan ("ESPP") (as amended in May 2017), eligible employees are offered shares bi-annually through a 24 month offering period which 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. Under the ESPP, 1,000,000 shares of the Company's common stock have been reserved for issuance to eligible employees. The ESPP provides for an automatic increase of the number of shares available for issuance under the ESPP on the first day of each fiscal year beginning on January 1, 2016, equal to the least of 5 million shares, 2% of the outstanding shares of our common stock on the last day of the immediately preceding fiscal year, or such other amount as may be determined by the Board of Directors. In 2018 and 2017, the Board of Directors authorized an additional 2,147,005 and 2,086,416 shares, respectively, reserved for issuance under the ESPP.

Stock-Based Compensation Expense

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

	Year Ended December 31,		
	2018	2017	2016
Cost of customer agreements and incentives	\$2,568	\$2,299	\$2,039
Cost of solar energy systems and product sales	718	609	409
Sales and marketing	7,191	5,196	7,831
Research and development	1,253	836	515
General and administration	16,126	13,102	7,929
Total	\$27,856	\$22,042	\$18,723

As of December 31, 2018 and 2017, total unrecognized compensation cost related to outstanding stock options and RSUs was \$40.0 million and \$34.8 million, respectively, which is expected to be recognized over a weighted-average period of 2.3 years and 2.8 years, respectively.

In August 2017, the Company entered into an agreement with an affiliate ("Contractor") of Comcast Corporation ("Comcast") whereby Contractor will receive lead or sales fees for new customers it brings to the Company over a 40-month term. Comcast may also earn a warrant to purchase up to 11,793,355 shares of the Company's outstanding common stock, at an exercise price of \$0.01 per warrant share. The warrant initially vests 50.05% when both (i) Contractor has earned a lead or sales fee with respect to 30,000 of installed solar

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energy systems, and (ii) Contractor or its affiliates have spent at least \$10.0 million in marketing and sales in connection with the agreement. Thereafter, the warrant will vest in five additional increments for each additional 6,000 installed solar energy systems. On November 7, 2018 the warrant vesting schedule was modified so that it will initially vest either (i) as to 10.0% if Contractor has earned a lead or sales fee with respect to 6,000 of installed solar energy systems by September 30, 2019 or (ii) as to 13.3% if Contractor has earned a lead or sales fee with respect to 8,000 of installed solar energy systems by December 31, 2019, provided that, in either case, Contractor or its affiliates have spent at least \$25.0 million in marketing and sales in connection with the agreement. Thereafter, the warrant will vest in additional 8.3% increments for each additional 5,000 installed solar energy systems. If the initial vesting conditions have not been met by December 31, 2019, the Warrant will expire. As of February 28, 2019, none of the shares under this amended warrant have vested and, therefore, the modification has no current financial statement effect as no expense has been recognized to date based on the terms of the award.

Note 19. Income Taxes

The following table presents the (income) loss before income taxes for the periods presented (in thousands):

	For the Year Ended December 31,		
	2018	2017	2016
Income attributable to common stockholders	\$(35,979)	\$(137,842)	\$(131,392)
Loss attributable to noncontrolling interest and redeemable noncontrolling interests	286,843	413,104	395,968
Loss before income taxes	\$250,864	\$275,262	\$264,576

The income tax provision (benefit) consists of the following (in thousands):

	For the Year Ended December 31,		
	2018	2017	2016
Current			
Federal	\$(1,100)	\$—	\$—
State	292	—	—
Total current expense	(808)	—	—
Deferred			
Federal	1,995	4,784	47,677
State	8,135	7,569	8,586
Total deferred provision	10,130	12,353	56,263
Total	\$9,322	\$12,353	\$56,263

The following table represents a reconciliation of the statutory federal rate and the Company's effective tax rate for the periods presented:

	For the Year Ended December 31,		
	2018	2017	2016
Tax provision (benefit) at federal statutory rate	(21.00)%	(34.00)%	(34.00)%
State income taxes, net of federal benefit	0.32	1.94	2.99
Effect of noncontrolling and redeemable noncontrolling interests	24.01	51.03	50.88
Stock-based compensation	(1.77)	0.70	0.69
Effect of prepaid tax asset	—	—	0.50
Tax credits	(1.35)	(1.25)	(1.63)
Effect of federal rate change	—	(15.93)	—
Effect of valuation allowance	3.04	0.81	0.25
Other	0.47	1.20	1.58
Total	3.72	% 4.50	% 21.26

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Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. The following table represents the components of the Company's deferred tax assets and liabilities for the periods presented (in thousands):

	December 31,	
	2018	2017
Deferred tax assets		
Accruals and prepaids	\$18,871	\$14,387
Deferred revenue	—	7,602
Net operating loss carryforwards	288,039	187,038
Stock-based compensation	5,681	4,994
Investment tax and other credits	28,551	22,940
Interest Expense	9,614	—
Interest rate derivatives	1,282	1,640
Total deferred tax assets	352,038	238,601
Less: Valuation allowance	(10,506)	(2,892)
Gross deferred tax assets	341,532	235,709
Deferred tax liabilities		
Deferred revenue	17,526	—
Capitalized initial direct costs	54,823	38,751
Fixed asset depreciation	218,701	173,175
Deferred tax on investment in partnerships	144,115	106,902
Gross deferred tax liabilities	435,165	318,828
Net deferred tax liabilities	\$(93,633)	\$(83,119)

As of December 31, 2018, the Company has an investment tax credit carryforward of approximately \$14.9 million which begins to expire in the year 2028, if not utilized and \$1.0 million of California enterprise zone credits which begin to expire in the year 2023. As of December 31, 2017, the Company has an investment tax credit carryforward of approximately \$11.5 million and California enterprise zone credits of approximately \$1.0 million.

Generally, utilization of the net operating loss carryforwards and credits may be subject to a substantial annual limitation due to the ownership change limitations provided by the Internal Revenue Code (IRC) of 1986, as amended and similar state provisions. The Company performed an analysis to determine whether an ownership change under Section 382 of the Code had occurred and determined that no ownership changes were identified as of December 31, 2018.

Valuation allowances are provided against deferred tax assets to the extent that it is more likely than not that the deferred tax asset will not be realized. The Company's management considers all available positive and negative evidence including its history of operating income or losses, future reversals of existing taxable temporary difference, taxable income in carryback years and tax-planning strategies. The Company has concluded that it is more likely than not that the benefit from certain federal tax credits, state net operating loss carryforwards, and state tax credits will not be realized. In recognition of this risk, the Company has provided a valuation allowance of \$10.5 million on the deferred tax assets relating to these federal tax credits, state net operating loss carryforwards, and state tax credits which is an increase of \$7.6 million in 2018.

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. These transactions are treated as intercompany sales and any tax expense incurred related to these sales prior to fiscal year 2017 was deferred. As described in Note 2, Summary of Significant Accounting Policies – Recently Issued Accounting Standards, ASU 2016-16, Intra-Entity Transfers of Assets Other Than Inventory, requires entities to recognize income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. As a result, a reporting entity would recognize the tax expense from the sale of assets in the seller's tax jurisdiction when the transfer occurs, even though the pre-tax effects of the transaction are eliminated in the

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consolidated financial statements. Any deferred tax asset that arises in the buyer's jurisdiction would also be recognized at the time of the transfer. As the Company sells solar energy systems to Funds, the Company records the current tax effect of the gain on the sale as well as a deferred tax asset related to the Company's increased tax basis in the partnership as a result of the sale. With the adoption of ASU 2016-16 on January 1, 2017 the Company reversed net prepaid tax assets of \$378.5 million and recorded the gross deferred tax assets associated with the historical intercompany sales of solar energy systems, which in turn reduced the deferred tax liabilities on investment in partnerships by \$378.2 million with the remaining \$0.3 million being recorded as a cumulative effect of adoption in the Company's Consolidated Statements of Redeemable Noncontrolling Interest and Stockholders' Equity. The adoption did not have an impact on the Company's Consolidated Statement of Operations.

The Company adopted ASU 2016-09, Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, on January 1, 2017. As a result of the adoption, the Company has increased its federal and state deferred tax assets by \$3.3 million for the cumulative unrecognized federal and state gross windfall net operating loss carryover at December 31, 2016 of \$8.6 million and \$6.8 million, respectively, with an offsetting adjustment to retained earnings of \$3.3 million.

Tax Cuts and Jobs Act

On December 22, 2017, the US government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). The Tax Act makes broad and complex changes to the US tax code including but not limited to, (1) reducing the US federal corporate tax rate from 35% to 21%; (2) immediate expensing of certain tangible personal property (3) creating a new limitation on deductible interest expense; (4) enacting special rules for taxable year of inclusion for certain revenues and (5) changing rules related to the uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 ("SAB 118") which provides guidance on accounting for the tax effects of the Tax Act. SAB 118 provides a measurement period that should not extend beyond one year from the Tax Act enactment date for companies to complete the accounting under ASC 740, Income taxes. In accordance with SAB 118 a company must reflect the income tax effects of those aspects of the Tax Act for which the accounting under ASC 740 is complete. For 2017, and the first nine months of 2018, the Company recorded provisional amounts for changes due to the Tax Act because we had not yet completed our analysis of the tax expense related to the enactment-date effects of the Tax Act that included performance-based compensation plans within the new definitions under IRC Section 162(m) of the Internal Revenue Code.

In its final assessment of the Tax Act, the Company believes that performance based compensation provided prior to November 2, 2017 was provided pursuant to a written binding agreement and will be deductible. No adjustment has been made to current or deferred income tax expense in 2017 or 2018. While we have fully accounted for the impact of the Tax Act, the Company will continue to monitor additional clarification and guidance from the IRS, including guidance related to Section 451(c) income recognition. As of December 31, 2018, the Company has completed its accounting for all of the enactment-date income tax effects of the Act.

Uncertain Tax Positions

The Company files tax returns as prescribed by the tax laws of the jurisdictions in which it operates. In the normal course of business, the Company is subject to examination by federal, state and local jurisdictions, where applicable. The statute of limitations for the tax returns varies by jurisdictions.

We determine whether a tax position is more likely than not to be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits of the position. We use a two-step approach to recognize and measure uncertain tax positions. The first step is to evaluate the tax position for recognition by determining if the weight of available evidence indicates that it is more likely than not that the position will be sustained upon tax authority examination, including resolution of related appeals or litigation processes, if any. The second step is to measure the tax benefit as the largest amount that is more than 50% likely of being realized upon ultimate settlement. We have analyzed the Company's inventory of tax positions with respect to all applicable income tax issues for all open tax years (in each respective jurisdiction).

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Our policy is to include interest and penalties related to unrecognized tax benefits, if any, within the provision for taxes in the consolidated statements of operations.

As of December 31, 2018 and 2017, the Company had \$0.6 million and \$1.5 million, respectively, of unrecognized tax benefits related to an acquisition in 2015. In addition, there was \$0.2 million and \$0.4 million of interest and penalties for uncertain tax positions as of December 31, 2018 and 2017, respectively. During the 12 months ended December 31, 2018, the Company recorded an income tax benefit of \$1.1 million, including penalties and interest, due to the expiration of federal and California statute of limitations. This benefit was fully offset by an indemnification asset that was written down to zero through operating expenses during the year. Due to the expiration of federal and California statute of limitations, the Company expects the total amount of gross unrecognized tax benefits will decrease by \$0.6 million within 12 months of December 31, 2018.

The change in unrecognized tax benefits during 2018, 2017 and 2016, excluding penalties and interest, is as follows:

	For the Year Ended December 31,		
	2018	2017	2016
Unrecognized tax benefits at beginning of the year	\$1,525	\$1,525	\$1,525
Reversal of prior year unrecognized tax benefits due to the expiration of the statute of limitations	(878)	—	—
Unrecognized tax benefits at end of the year	\$647	\$1,525	\$1,525

One of our investment funds has recently been selected for audit by the Internal Revenue Service (the “IRS”). In addition, three of our investors are currently being audited by the IRS, and these investor audits involve a review of the fair market value determination of our solar energy systems. If these investor audits result in an adverse finding, we would be subject to an indemnity obligation to these investors. The Company is subject to taxation and files income tax returns in the U.S., its territories, and various state and local jurisdictions. Due to the Company’s net losses, substantially all of its federal, state and local income tax returns since inception are still subject to audit.

The following table summarizes the tax years that remain open and subject to examination by the tax authorities in the most significant jurisdictions in which the Company operates:

Tax Years	
U.S. Federal	2015 - 2018
State	2014 - 2018
Net Operating Loss Carryforwards	

As a result of the Company’s net operating loss carryforwards as of December 31, 2018, the Company does not expect to pay income tax, including in connection with its income tax provision for the year ended December 31, 2018 until the Company’s net operating losses are fully utilized. As of December 31, 2018, the Company had net operating loss carryforwards for federal, California and other state income tax purposes of approximately \$1.1 billion, \$576.9 million and \$535.8 million, respectively, which will begin to expire in the year 2028, 2028 and 2024, respectively, if not utilized. Federal and certain state net operating loss carryforwards generated in 2018 have indefinite carryover periods and do not expire. The Company performed an analysis to determine whether an ownership change under Section 382 of the Code had occurred and determined that no ownership changes were identified as of December 31, 2018.

Note 20. Commitments and Contingencies

Letters of Credit

As of December 31, 2018 and 2017, the Company had \$9.7 million and \$16.4 million, respectively, of unused letters of credit outstanding, which carry fees of 2.5 - 3.25% per annum and 2.50 - 3.25% per annum, respectively.

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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):

	For the Year Ended December 31,		
	2018	2017	2016
Finance lease cost:			
Amortization of right-of-use assets	\$11,884	\$11,029	\$11,252
Interest on lease liabilities	676	640	889
Operating lease cost	10,467	10,177	9,380
Short-term lease cost	732	493	1,103
Variable lease cost	3,112	2,502	2,173
Sublease income	(572)	(24)	(79)
Total lease cost	\$26,299	\$24,817	\$24,718

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

	For the Year Ended December 31,		
	2018	2017	2016
Cash paid for amounts included in the measurement of lease liabilities			
Operating cash flows from operating leases	\$10,765	\$10,027	\$8,345
Operating cash flows from finance leases	482	591	885
Financing cash flows from finance leases	9,220	10,032	12,968
Right-of-use assets obtained in exchange for lease obligations:			
Operating leases	3,411	7,276	5,913
Finance leases	15,370	862	14,875
Weighted average remaining lease term (years):			
Operating leases	3.43	3.99	4.28
Finance leases	3.37	2.06	2.83
Weighted average discount rate:			
Operating leases	4.3	% 4.1	% 3.9
Finance leases	4.3	% 3.1	% 3.0

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Future minimum lease payments under non-cancellable leases as of December 31, 2018 were as follows (in thousands):

	Operating Leases	Sublease Income	Net Operating Leases	Finance leases
2019	\$9,494	\$ 774	\$ 8,720	\$9,742
2020	6,224	787	5,437	4,806
2021	4,194	639	3,555	3,103
2022	2,677	—	2,677	1,503
2023	1,774	—	1,774	57
Thereafter	25	—	25	949
Total future lease payments	24,388	2,200	22,188	20,160
Less: Amount representing interest	(1,602)	—	(1,602)	(975)
Present value of future payments	22,786	2,200	20,586	19,185
Less: Short term leases not recorded as a liability	(748)	—	(748)	—
Revised Present value of future payments	22,038	2,200	19,838	19,185
Less: Current portion	(7,857)	—	(7,857)	(9,193)
Long term portion	\$ 14,181	\$ 2,200	\$ 11,981	\$9,992
Purchase Commitment				

The Company entered into purchase commitments, which have the ability to be canceled without significant penalties, with multiple suppliers to purchase \$135.4 million of photovoltaic modules and inverters by the end of 2019.

Warranty Accrual

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

ITC and Cash Grant Indemnification

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

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transferred to most Funds through April 2018, or later, in the case of Funds added to the policy after such date. In general, the policy indemnifies the Company and related parties for additional taxes (including penalties and interest) owed in respect of lost ITCs, gross-up costs and expenses incurred in defending such claim, subject to negotiated exclusions from, and limitations to, coverage.

Litigation

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

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

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

On April 13, 2016, a purported shareholder class action captioned *Pytel v. Sunrun Inc., et al.*, Case No. CIV 538215, was filed in the Superior Court of California, County of San Mateo, against the Company, certain of the Company's directors and officers, the underwriters of the Company's initial public offering and certain other defendants. The complaint generally alleges that the defendants violated Sections 11, 12 and 15 of the Securities Act of 1933, as amended (the "Securities Act"), by making false or misleading statements in connection with the Company's August 5, 2015 initial public offering regarding the continuation of net metering programs. The plaintiffs seek to represent a class of persons who acquired the Company's common stock pursuant or traceable to the initial public offering. Plaintiffs seek compensatory damages, including interest, rescission or rescissory damages, an award of reasonable costs and attorneys' fees, and any equitable or injunctive relief deemed appropriate by the court. On April 29, 2016, a purported shareholder class action captioned *Baker et al. v. Sunrun Inc., et al.*, Case No. CIV 538419, was filed in the Superior Court of California, County of San Mateo. On May 10, 2016, a purported shareholder class action captioned *Nunez v. Sunrun Inc., et al.*, Case No. CIV 538593, was filed in the Superior Court of California, County of

San Mateo. The Baker and Nunez complaints are substantially similar to the Pytel complaint, and seek similar relief against similar defendants on behalf of the same purported class. On

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Notes to Consolidated Financial Statements — Continued

February 1, 2018, plaintiffs filed a second amended complaint including allegations related to the alleged effect of customer cancellations on the Company's business.

On April 21, 2016, a purported shareholder class action captioned Cohen, et al. v. Sunrun Inc., et al., Case No. CIV 538304, was filed in the Superior Court of California, County of San Mateo, against the Company, certain of the Company's directors and officers, and the underwriters of the Company's initial public offering. The complaint generally alleges that the defendants violated Sections 11, 12 and 15 of the Securities Act by making false or misleading statements in connection with an August 5, 2015 initial public offering regarding the Company's business practices and its dependence on complex financial instruments. The Cohen plaintiffs seek to represent the same class and seek similar relief as the plaintiffs in the Pytel, Nunez, and Baker actions. On September 26, 2016, the Baker, Cohen, Nunez, and Pytel actions were consolidated (such consolidated action referred to as the "state court litigation"). On December 27, 2017, the court granted Plaintiffs' motion for class certification.

Following a mediation on May 4, 2018, the parties entered into an agreement in principle to settle all claims asserted in the state court litigation against all defendants. The aggregate amount of the settlement is \$32.0 million, \$30.1 million of which will be funded by the Company's insurers and the remaining \$1.9 million of which was accrued as of June 30, 2018. The Company and all defendants have denied, and continue to deny, the claims alleged in the state court litigation and the settlement does not reflect any admission of fault, wrongdoing or liability as to any defendant. On December 14, 2018, the court granted final approval of the settlement and entered judgment.

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

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

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

the Company, certain corporate actions to purportedly improve the Company's corporate governance, and an award of costs and expenses to the putative plaintiff stockholder, including attorneys' fees.

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

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

Note 21. Net Income Per Share

Basic net income per share is computed by dividing net income attributable to common stockholders by the weighted-average number of common shares outstanding during the period. Diluted net income per share is computed by dividing net income attributable to common stockholders by the weighted-average number of common shares outstanding during the period adjusted to include the effect of potentially dilutive securities. Potentially dilutive securities are excluded from the computation of dilutive EPS in periods in which the effect would be antidilutive. The computation of the Company's basic and diluted net income per share is as follows (in thousands, except per share amounts):

	Years Ended December 31,		
	2018	2017	2016
Numerator:			
Net income attributable to common stockholders	\$26,657	\$125,489	\$75,129
Denominator:			
Weighted average shares used to compute net income per share attributable to common stockholders, basic	110,089	105,432	102,367
Weighted average effect of potentially dilutive shares to purchase common stock	7,023	2,774	2,597
Weighted average shares used to compute net income per share attributable to common stockholders, diluted	117,112	108,206	104,964
Net income per share attributable to common stockholders			
Basic	\$0.24	\$1.19	\$0.73
Diluted	\$0.23	\$1.16	\$0.72

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

	Year Ended December 31,		
	2018	2017	2016
Warrants	625	1,251	1,251
Outstanding stock options	3,271	13,803	8,981
Unvested restricted stock units	649	1,451	1,564
Total	4,545	16,505	11,796

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Note 22. Related Party Transactions

An individual who previously served as one of the Company's directors until March 2017 has direct and indirect ownership interests in Enphase Energy, Inc. ("Enphase"). For the years ended December 31, 2017 and 2016, the Company recorded \$9.1 million and \$19.9 million, respectively, in purchases from Enphase and had outstanding payables to Enphase of \$2.0 million as of December 31, 2017.

Note 23. Quarterly Results of Operations (Unaudited)

The following table presents selected quarterly results of operations data for the years ended December 31, 2018 and 2017 (in thousands, except per share amounts):

	Three Months Ended			
	December 31	September 30	June 30	March 31
2018				
Total Revenue	\$240,120	\$204,960	\$170,538	\$144,363
Cost of customer agreements and incentives	\$65,317	\$63,195	\$57,769	\$54,576
Cost of solar energy systems and product sales	\$89,040	\$76,179	\$64,268	\$64,579
Net loss	\$(49,515)	\$(47,524)	\$(71,727)	\$(91,420)
Net (loss) income attributable to common stockholders	\$(5,888)	\$(2,896)	\$7,409	\$28,032
Net (loss) income per share attributable to common stockholders, basic	\$(0.05)	\$(0.03)	\$0.07	\$0.26
Net (loss) income per share attributable to common stockholders, diluted	\$(0.05)	\$(0.02)	\$0.06	\$0.25
2017				
Total Revenue	\$152,265	\$144,546	\$130,622	\$105,109
Cost of customer agreements and incentives	\$51,234	\$47,299	\$45,289	\$42,613
Cost of solar energy systems and product sales	\$74,174	\$69,588	\$60,938	\$49,431
Net loss	\$(56,035)	\$(82,815)	\$(73,610)	\$(75,155)
Net income attributable to common stockholders	\$69,254	\$28,007	\$18,346	\$9,882
Net income per share attributable to common stockholders, basic	\$0.65	\$0.26	\$0.17	\$0.09
Net income per share attributable to common stockholders, diluted	\$0.63	\$0.26	\$0.17	\$0.09

In the second and third quarter of 2018, the Company reflected amounts received for ITCs from the investor in a pass-through financing obligation arrangement as proceeds from pass-through financing and other obligations in its consolidated statement of cash flows in the respective 2018 periods. The presentation of amounts received for ITCs from investors in pass-through financing obligation arrangements for the year ended December 31, 2018 are presented in cash from operating activities upon the adoption of Topic 606 in January 2018. Accordingly, \$53.5 million and \$103.0 million previously reported in cash provided by financing activities during the six months ended June 30, 2018 and nine months ended September 30, 2018 have been reclassified to net cash used in operating activities in the Company's consolidated statement of cash flows for the year ended December 31, 2018.

PART IV

Item 15. Exhibits, Financial Statement Schedules.

Documents filed as part of this report are as follows:

(1) Consolidated Financial Statements

Our Consolidated Financial Statements are listed in the “Index to Consolidated Financial Statements” under Item 8 of Part II of this Annual Report.

(2) Financial Statement Schedules

The required information is included elsewhere in this Annual Report, not applicable, or not material.

(3) Exhibits

The exhibits listed in the accompanying “Exhibit Index” are filed or incorporated by reference as part of this Annual Report.

EXHIBIT INDEX

Exhibit		Incorporated by Reference Form File No. Exhibit Filing Date		
Number	Exhibit Description			
23.1	<u>Consent of Independent Registered Public Accounting Firm</u> <u>Certification of Chief Executive Officer pursuant to Exchange Act</u>			
31.1	<u>Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of</u> <u>the Sarbanes-Oxley Act of 2002</u>			
31.2	<u>Certification of Chief Financial Officer pursuant to Exchange Act</u> <u>Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of</u> <u>the Sarbanes-Oxley Act of 2002</u>			
32.1†	<u>Certifications of Chief Executive Officer and Chief Financial Officer</u> <u>pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906</u> <u>of the Sarbanes-Oxley Act of 2002</u>			
101.INS	XBRL Instance Document			
101.SCH	XBRL Taxonomy Schema Linkbase Document			
101.CAL	XBRL Taxonomy Definition Linkbase Document			
101.DEF	XBRL Taxonomy Calculation Linkbase Document			
101.LAB	XBRL Taxonomy Labels Linkbase Document			
101.PRE	XBRL Taxonomy Presentation Linkbase Document			

The certifications attached as Exhibit 32.1 that accompany this Annual Report on Form 10-K/A, 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 Annual Report on Form 10-K/A, irrespective of any general incorporation language contained in such filing.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.
Sunrun Inc.

Date: March 5, 2019 By: /s/ Lynn Jurich

Lynn Jurich

Chief Executive Officer (Principal Executive Officer)

By: /s/ Bob Komin

Bob Komin

Chief Financial Officer (Principal Accounting and Financial Officer)