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

FORM 10-K

(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, 2020

OR

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

For the transition period from _____ to _____

Commission File Number: 001-38995

Sunnova Energy International Inc.

(Exact name of registrant as specified in its charter)

Delaware	**30-1192746**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification Number)**

20 East Greenway Plaza, Suite 540
Houston, Texas 77046
(Address, including zip code, of principal executive offices)

(281) 892-1588
(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol(s)	Name of Each Exchange on Which Registered
Common Stock, $0.0001 par value per share	NOVA	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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

The aggregate market value of the common stock held by non-affiliates of the Registrant, based on the closing price of such shares of common stock of $17.07 as reported on the New York Stock Exchange on June 30, 2020 (the last business day of the Registrant's most recently completed second fiscal quarter), was approximately $571.6 million.

The registrant had 108,065,275 shares of common stock outstanding as of February 22, 2021.

Portions of the information called for by Part III of this Form 10-K are hereby incorporated by reference from either the definitive Proxy Statement for our annual meeting of stockholders or an amendment to this Form 10-K, either of which will be filed with the Securities and Exchange Commission not later than 120 days after December 31, 2020.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Unless the context otherwise requires, the terms "Sunnova," "the Company," "we," "us" and "our" refer to Sunnova Energy International Inc. ("SEI") and its consolidated subsidiaries. Forward-looking statements generally relate to future events or Sunnova's future financial or operating performance. Actual outcomes and results may differ materially from what is expressed or forecast in such forward-looking statements. In some cases, you can identify these statements because they contain words such as "may," "will," "likely," "should," "expect," "anticipate," "could," "contemplate," "target," "future," "plan," "believe," "intend," "goal," "seek," "estimate," "project," "predict," "potential," "continue" or the negative of these words or other similar terms or expressions that concern our expectations, strategy, plans or intentions. Forward-looking statements contained in this report include, but are not limited to, statements about:

- our ability to consummate the Acquisition (as defined herein);
- the benefits of the Acquisition;
- our future operations and financial performance following the Acquisition;
- the effects of the coronavirus ("COVID-19") pandemic on our business and operations, results of operations and financial position;
- federal, state and local statutes, regulations and policies;
- determinations of the Internal Revenue Service ("IRS") of the fair market value of our solar energy systems;
- the price of centralized utility-generated electricity and electricity from other sources and technologies;
- technical and capacity limitations imposed by operators of the power grid;
- the availability of tax rebates, credits and incentives, including changes to the rates of, or expiration of, federal tax credits and the availability of related safe harbors;
- our need and ability to raise capital to finance the installation and acquisition of distributed residential solar energy systems, refinance existing debt or otherwise meet our liquidity needs;
- our expectations concerning relationships with third parties, including the attraction, retention, performance and continued existence of our dealers;
- our ability to manage our supply chains and distribution channels and the impact of natural disasters and other events beyond our control, such as the COVID-19 pandemic;
- our ability to retain or upgrade current customers, further penetrate existing markets or expand into new markets;
- our investment in our platform and new product offerings and the demand for and expected benefits of our platform and product offerings;
- the ability of our solar energy systems, energy storage systems or other product offerings to operate or deliver energy for any reason, including if interconnection or transmission facilities on which we rely become unavailable;
- our ability to maintain our brand and protect our intellectual property and customer data;
- our ability to manage the cost of solar energy systems, energy storage systems and our service offerings;
- the willingness of and ability of our dealers and suppliers to fulfill their respective warranty and other contractual obligations;
- our expectations regarding litigation and administrative proceedings; and
- our ability to renew or replace expiring, canceled or terminated solar service agreements at favorable rates or on a long-term basis.

Our actual results and timing of these events may differ materially from those anticipated in these forward-looking statements as a result of many factors, including but not limited to those discussed under "Risk Factors" and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements. We undertake no obligation to update publicly any forward-looking statements for any reason after the date of this Annual Report on Form 10-K to conform these statements to actual results or to changes in our expectations, except as required by law.

Summary of Risk Factors

The risk factors detailed in Item 1A entitled "*Risk Factors*" in this Annual Report on Form 10-K, are the risks we believe are material to our investors and a reader should carefully consider them. The following is a summary of the risk factors detailed in Item 1A:

Risks Related to Our Business

- The ongoing COVID-19 pandemic could adversely affect our business, financial condition and results of operations.
- Historically, we have incurred operating and net losses and we may be unable to achieve or sustain profitability in the future.
- If our allowance for credit losses is not enough to cover actual credit losses from our customer notes receivable portfolio, our results of operations and financial condition could be negatively affected.
- Certain of our key operational metrics, including estimated gross contracted customer value, are based on various assumptions and estimates we make that cover an extended period of time. Actual experience may vary materially from these estimates and assumptions and therefore undue reliance should not be placed on these metrics.
- Our growth strategy depends on the continued origination of solar service agreements by us and our dealers.
- If sufficient additional demand for residential solar energy systems does not develop or takes longer to develop than we anticipate, our ability to originate solar service agreements may decrease.
- A material reduction in the retail price of electricity charged by electric utilities or other retail electricity providers would harm our business, financial condition and results of operations.
- Our growth is dependent on our dealer network and our failure to retain or replace existing dealers or to grow our dealer network could adversely impact our business.
- We need to obtain substantial additional financing arrangements to provide working capital and growth capital and if financing is not available to us on acceptable terms when needed, our ability to continue to grow our business would be materially adversely impacted.
- Servicing our existing debt requires a significant amount of cash. We may not have sufficient cash flow from our business to timely pay our interest and principal obligations and may be forced to take other actions to satisfy our payment obligations.
- We are exposed to the credit risk of our customers.
- Rising interest rates may adversely impact our business.
- Our business has benefited from the declining cost of solar energy system components and our business may be harmed to the extent the cost of such components stabilize or increase in the future.
- We do not directly control certain costs related to our business, which could put us at a disadvantage relative to companies who have a vertically integrated business model.
- We may be unsuccessful in introducing new service and product offerings, including our distributed energy storage services and energy storage management systems.
- We face competition from centralized electric utilities, retail electric providers, independent power producers and renewable energy companies.
- Developments in technology or improvements in distributed solar energy generation and related technologies or components may materially adversely affect demand for our offerings.
- We and our dealers depend on a limited number of suppliers of solar energy system components and technologies to adequately meet demand for our solar energy systems. Due to the limited number of suppliers in our industry, the acquisition of any of these suppliers by a competitor or any shortage, delay, price change, imposition of tariffs or duties or other limitation in our or our dealers' ability to obtain components or technologies we use could result in sales and installation delays, cancelations and loss of customers.
- Increases in the cost of our solar energy systems due to tariffs imposed by the U.S. government could have a material adverse effect on our business, financial condition and results of operations.
- Our operating results and our ability to grow may fluctuate from quarter to quarter and year to year, which could make our future performance difficult to predict and could cause our operating results for a particular period to fall below expectations.
- If we are unable to make acquisitions on economically acceptable terms, our future growth would be limited, and any acquisitions we may make may reduce, rather than increase, our cash flows.
- Certain of our solar energy systems are located in, and we conduct business in, Puerto Rico and weakness in the fiscal health of the government and PREPA, the damage caused by Hurricane Maria in September 2017, a series of earthquakes that affected the island in December 2019 and early 2020 and potential tax increases that may increase our cost of conducting business in Puerto Rico, create uncertainty that may adversely impact us. In addition, we are subject to administrative proceedings instituted by the Puerto Rico Energy Bureau.
- Our business is concentrated in certain markets, putting us at risk of region-specific disruptions.

- Our business is subject to complex and evolving U.S. laws and regulations regarding privacy and data protection ("data protection laws"). Many of these laws and regulations are subject to change and uncertain interpretation and could result in claims, increased cost of operations or otherwise harm our business.
- Our actual financial results may differ materially from any guidance we may publish from time to time.

Risks Related to the Acquisition

- We may not be successful in completing the Acquisition.
- We expect to incur significant transaction and acquisition related costs in connection with the Acquisition.
- The success of the Acquisition and our ability to derive our expected benefits from the Acquisition are subject to substantial risks.
- The Acquisition is subject to substantial integration risks that could adversely affect our financial condition and results of operations.
- Our results may suffer if we do not effectively manage our expanded operations following the Acquisition.

Risks Related to Regulation

- We are not currently regulated as an electric public utility under applicable law but may be subject to regulation as an electric utility in the future.
- Electric utility policies and regulations, including those affecting electric rates, may present regulatory and economic barriers to the purchase and use of solar energy systems that may significantly reduce demand for electricity from our solar energy systems and adversely impact our ability to originate new solar service agreements.
- We rely on net metering and related policies to offer competitive pricing to our customers in most of our current markets and changes to net metering policies may significantly reduce demand for electricity from residential solar energy systems.
- Our business currently depends in part on the availability of rebates, tax credits and other financial incentives. The expiration, elimination or reduction of these rebates, credits or incentives or our ability to monetize them could adversely impact our business.
- Our business depends in part on the regulatory treatment of third-party owned solar energy systems.
- Technical and regulatory limitations regarding the interconnection of solar energy systems to the electrical grid may significantly reduce our ability to sell electricity from our solar energy systems in certain markets or delay interconnections and customer in-service dates, harming our growth rate and customer satisfaction.

Risks Related to Our Common Stock

- We do not intend to pay, and our credit facilities currently prohibit us from paying, cash dividends on our common stock and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.
- The market price of our common stock could be materially adversely affected by sales of substantial amounts of our common stock in the public markets, including sales by entities affiliated with Energy Capital Partners ("ECP") and Newlight Partners ("Newlight").
- The price of our common stock is volatile and may decline in value.
- If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our common stock, our common stock price and trading volume could decline.
- Ownership of our common stock by current stockholders is expected to remain significant.
- Provisions of our charter documents and Delaware law may inhibit a takeover, which could limit the price investors might be willing to pay in the future for our common stock.

Risks Related to Taxation

- Our ability to use net operating loss carryforwards ("NOLs") and tax credit carryforwards to offset future income taxes is subject to limitation and the amount of such carryforwards may be subject to challenge or reduction.
- Changes in tax law could adversely affect our business.
- If the IRS or the U.S. Treasury Department makes a determination that the fair market value of our solar energy systems is materially lower than what we have reported in our tax equity vehicles' tax returns, we may have to pay significant amounts to our tax equity vehicles, our tax equity investors and/or the U.S. government. Such determinations could have a material adverse effect on our business and financial condition.
- If our solar energy systems either cease to be qualifying property or undergo certain changes in ownership within five years of the applicable placed in service date, we may have to pay significant amounts to our tax equity vehicles, our tax equity investors and/or the U.S. government. Such recapture could have a material adverse effect on our business and financial condition.

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PART I - FINANCIAL INFORMATION

Item 1. Business.

Mission

To power energy independence.

Acquisition of SunStreet

In February 2021, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with certain of our subsidiaries, SunStreet Energy Group, LLC, a Delaware limited liability company ("SunStreet"), and LEN X, LLC, a Florida limited liability company, the sole member of SunStreet and a wholly owned subsidiary of Lennar Corporation ("Len^{x}"). Pursuant to the Merger Agreement, we will acquire SunStreet, Lennar Corporation's residential solar platform, in exchange for up to 7,222,229 shares of our common stock (the "Acquisition"), comprised of 3,333,333 shares in initial consideration to be issued at closing, subject to purchase price adjustment, and up to 3,888,896 shares issuable as earnout consideration after closing of the Acquisition. The Acquisition is expected to provide a new strategic path to further scale our business and develop clean and resilient residential microgrids across the United States ("U.S.").

The completion of the Acquisition is subject to, among other customary mutual conditions, our entry into (a) a transition services agreement, (b) a stockholders agreement, which will provide for certain registration rights and standstill provisions, (c) a master management and services agreement with an affiliate of Lennar Corporation, which will provide for SunStreet's continued provision of operating, maintenance and servicing services for solar service agreements of Lennar Corporation customers, (d) an exclusivity agreement with Lennar Corporation and (e) initial tax equity fund documents. The Merger Agreement contains termination rights if, among other things, the Acquisition does not close on or before September 1, 2021. The Acquisition is expected to close in the second quarter of 2021. See "*Item 1A. Risk Factors*" for discussion of risks related to the Acquisition.

Earnout Agreement

Pursuant to the Earnout Agreement entered into between us and Len^{x}, Len^{x} will have the ability to earn up to 3,888,896 additional shares of common stock over a five-year period in connection with the Acquisition. The earnout payments are conditioned on SunStreet meeting certain commercial milestones tied to achieving specified origination targets. There are two elements to the earnout arrangement. First, we will issue up to 2,777,784 shares if we and our subsidiaries (including SunStreet) place target amounts of solar energy systems into service and enter into qualifying customer agreements related to such solar energy systems through SunStreet's existing homebuilding process. The 2,777,784 shares of common stock issuable under this prong of the earnout can be earned in four installments on a yearly basis (if the origination target for each such year is achieved) or at the end of the four-year period (if the aggregate origination target is achieved in the fourth and final year), with the annual periods commencing on the closing date of the Acquisition. The second element of the earnout is related to the development of microgrid communities. Pursuant to this portion of the earnout, we will issue up to 1,111,112 shares if, prior to the fifth anniversary of the closing date of the Acquisition, we enter into binding agreements for the development of microgrid communities.

Exclusivity Agreement

In connection with the Acquisition, we will become Lennar Corporation's exclusive residential solar and storage service provider for new home communities with solar across the U.S. for a period of four years. Under the exclusivity agreement, Lennar Corporation will agree to exclusively use us or our subsidiaries as its solar and storage service provider. In addition, through the exclusivity agreement we will have the opportunity to leverage Lennar Corporation's existing customer relationships to offer solar service agreements to those customers without an existing solar energy system. Lennar Corporation will retain the ability to terminate the exclusivity agreement if we fail to maintain certain specified performance obligations on a regular basis, including the failure to timely install solar and storage equipment across its new home communities. We are also required to offer competitive prices to Lennar Corporation's homebuyers and incentives to Lennar Corporation.

Tax Equity Commitment

In connection with the Acquisition, Lennar Corporation has committed to contribute an aggregate $200.0 million (the "Funding Commitment") to four Sunnova tax equity funds, each formed annually during a period of four consecutive years (each such year, a "Contribution Year") commencing in 2021. The solar service agreements and related solar energy systems

acquired by each of these four tax equity funds will generally be originated by SunStreet, though a certain number of solar service agreements may be originated by our dealers if those originated by SunStreet do not fully utilize Lennar Corporation's Funding Commitment for a given Contribution Year. Any amount not utilized during the first and second Contribution Years will increase the Funding Commitment during the third Contribution Year by that amount, and any amount not utilized during the third Contribution Year will increase the Funding Commitment during the fourth Contribution Year by that amount. In connection with the Funding Commitment, each of the tax equity funds will enter into typical tax equity fund transaction documentation, including development and purchase agreements, servicing agreements and limited liability company agreements.

Overview

We are a leading residential solar and energy storage service provider, serving over 107,000 customers in more than 20 U.S. states and territories. Our goal is to be the leading provider of clean, affordable and reliable energy for consumers, and we operate with a simple mission: to power energy independence. We were founded to deliver customers a better energy service at a better price; and, through our solar and solar plus energy storage service offerings, we are disrupting the traditional energy landscape and the way the 21st century customer generates and consumes electricity.

We have a differentiated residential solar dealer model in which we partner with local dealers who originate, design and install our customers' solar energy systems and energy storage systems on our behalf. Our focus on our dealer model enables us to leverage our dealers' specialized knowledge, connections and experience in local markets to drive customer origination while providing our dealers with access to high quality products at competitive prices, as well as technical oversight and expertise. We believe this structure provides operational flexibility, reduces exposure to labor shortages and lowers fixed costs relative to our peers, furthering our competitive advantage.

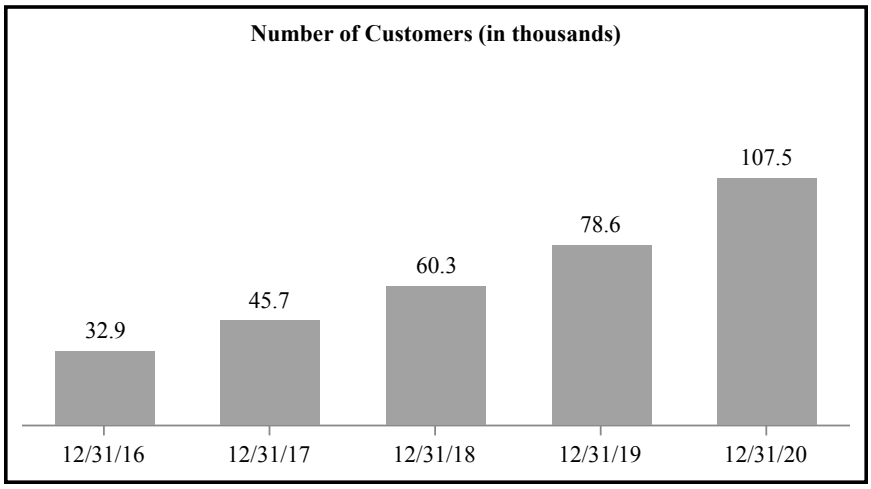
We offer customers products to power their homes with affordable solar energy. We are able to offer savings compared to utility-based retail rates with little to no up-front expense to the customer in conjunction with solar and solar plus energy storage, and in the case of the latter are able to also provide energy resiliency. We also make it possible in some states for a customer to obtain a new roof and other ancillary products as part of their solar loan. Our solar service agreements take the form of a lease, power purchase agreement ("PPA") or loan. The initial term of our solar service agreements is typically 10, 15 or 25 years. Service is an integral part of our agreements and includes operations and maintenance, monitoring, repairs and replacements, equipment upgrades, on-site power optimization for the customer (for both supply and demand), the ability to efficiently switch power sources among the solar panel, grid and energy storage system, as appropriate, and diagnostics. During the life of the contract we have the opportunity to integrate related and evolving home servicing and monitoring technologies to upgrade the flexibility and reduce the cost of our customers' energy supply.

In the case of leases and PPAs, we also currently receive tax benefits and other incentives from federal, state and local governments, a portion of which we finance through tax equity, non-recourse debt structures and hedging arrangements in order to fund our upfront costs, overhead and growth investments. We have an established track record of attracting capital from diverse sources. From our inception through December 31, 2020, we have raised more than $6.7 billion in total capital commitments from equity, debt and tax equity investors.

In addition to providing ongoing service as a standard component of our solar service agreements, we also offer ongoing energy services to customers who purchased their solar energy system through third parties. Under these arrangements, we agree to provide monitoring, maintenance and repair services to these customers for the life of the service contract they sign with us. We believe the quality and scope of our comprehensive energy service offerings, whether to customers that obtained their solar energy system through us or through another party, is a key differentiator between us and our competitors.

We commenced operations in January 2013 and began providing solar energy services under our first solar energy system in April 2013. Since then, our brand, innovation and focused execution have driven significant rapid growth in our market share and in the number of customers on our platform. We operate one of the largest fleets of residential solar energy systems in the U.S., comprising more than 790 megawatts of generation capacity and serving more than 107,000 customers. We define number of customers to include each unique customer that is party to a solar service agreement or purchased a solar energy system from us outright, which we subsequently placed in service. For further discussion of how we define number of customers, see "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Financial and*

Operational Metrics". The following chart illustrates the growth in our number of customers from December 31, 2016 through December 31, 2020.



Our Dealer Network Model

While many of our competitors maintain a large, geographically diverse base of employees in local markets, including a direct sales force comprised of home improvement installers, we limit the cost associated with that structure by utilizing a network of local, independent dealers to market, sell and install solar energy systems and energy storage systems on our behalf. Our dealers typically reside and work within the markets they serve and provide a localized, customer-focused marketing, installation and servicing process. These dealers are often leading local solar installation companies that serve customers who are actively searching for solar power or who were referred by existing customers. When entering new markets, our dealer model immediately provides scale by enabling us to develop relationships with existing local businesses and avoiding the delay and expense required to establish new sales and installation offices. Similarly, because we do not typically maintain local offices, we can quickly refocus our origination efforts and capital deployment strategy to different markets in response to changing dynamics and regulatory developments. Furthermore, because of the low marginal cost to maintain relationships with individual dealers in currently unfavorable markets, we can maintain a strategic presence in anticipation of future developments that may make the economics of distributed residential solar energy in those markets more attractive.

Our dealers realize value in partnering with us for a variety of reasons. Although each of our dealer relationships is unique, we believe our dealers choose to work with us because:

- we do not compete with our dealers;
- we receive preferred equipment pricing as a result of our strong supplier relationships;
- we offer a wide variety of product structures;
- we provide easy-to-use software to dealers to assist with the installation process and to price potential solar energy systems and energy storage systems;
- dealers can leverage our brand and reputation for customer service to support their businesses;
- we provide comprehensive training to dealers; and
- we are a stable counterparty our dealers can trust to make payments on time.

Origination, Installation, Monitoring and Servicing Processes

Through our dealer network model, we provide a streamlined approach for the origination of solar service agreements and the installation of solar energy systems and energy storage systems. The principal elements of our origination, installation, monitoring and servicing processes are described below:

- *Customer Origination and Consultation.* Our dealers serve as a local, direct-to-home sales force providing in-person and virtual consultations to source potential customers in each geographic market where we operate. Our dealers reach potential customers through various means, including online, telemarketing, in-store sales, cross-marketing with complementary products and door-to-door canvasing. Using our technology platform and proprietary pricing tool, the dealer and the customer select one of our standard-form solar service agreements for the relevant market and the dealer

submits its proposal to us for approval. Before proceeding to the design phase, we confirm that every customer understands the terms of their contract with us as well as the expected benefits of the system.

- *Design and Engineering*. Prior to the dealer's purchase and installation of the equipment, we and the dealers work together to design each solar energy system and, if applicable, energy storage system. All of our solar energy systems and energy storage systems are designed with equipment from a pre-approved list of manufacturers. We utilize our extensive tools and services platform, standardized procedures and existing databases to help our dealers comply with our pricing requirements, residential solar best practices, contract terms, and state, territorial and local regulations. For each solar service agreement, an individualized power production estimate is created by analyzing geographic, solar and weather data with the design's proposed orientation, components and shading. We continue to pursue technological innovation to streamline our review of design and engineering, to expedite installation and to lower costs for our dealers.

- *Installation, Commissioning and Interconnection*. The installation and commissioning phase requires the dealer to obtain all necessary permits for installation and complete our commissioning process for the solar energy system and energy storage system (if applicable), which entails submitting supporting documentation and photographs illustrating the installation of the solar energy system and energy storage system (if applicable) to our engineering team for review. Following completion of these steps and our approval of these materials, the dealer submits required paperwork to the applicable electric distribution utility to obtain permission to operate the equipment, schedule required regulatory inspections and arrange for interconnection of the solar energy system to the electrical grid.

- *Customer Billing Dates*. How soon we will begin billing the customer after the solar energy system has been placed in service will vary by product offering. Lease agreements will begin billing on the first cycle date after the solar energy system has been placed in service, generally within 30 days. PPAs will begin billing on the first cycle date in the next calendar month after the solar energy system has been placed in service, generally between 15 and 60 days after the solar energy system has been placed in service. Loan agreements require that the solar energy system must be in service at least 30 days prior to the date when billing can begin. As a result, billing on loan agreements generally begins the first cycle date in the next calendar month after the solar energy system has been placed in service.

- *Monitoring and Servicing*. Our monitoring systems utilize cellular connections that allow us to confirm the continuing operation of the solar energy system and energy storage system (if applicable) and identify and solve maintenance issues through our dealers, third-party service providers or our own personnel. We also collect performance data to improve our pricing, generation estimates and services for our customers.

Our Relationships With Our Dealers

We carefully recruit our dealers, who must meet and maintain our standards to be an approved dealer. Qualifications to be a dealer include: experience in the residential solar industry (or success in complementary industries such as home security, heating, ventilation and air-conditioning, electrical services, and satellite television), experienced and appropriately certified employees (including multiple installation teams) and possession of applicable licenses. We also perform a review of the prospective dealer's financial condition as part of our recruitment process as well as a background check on the principal owners of the organization. Upon engagement, the dealer enters into a standard dealer agreement with us, which may be amended from time to time, that sets ongoing standards for operations and payment obligations based on different milestones for each project. We provide training, field support and continuing education to help our dealers operate efficiently. This includes training related to our processes, standards and services platform, sales training and compliance education regarding applicable rules and regulations. We actively review our dealers' performance and compliance with our requirements to determine whether to terminate our relationship with any dealer that is unable to meet our performance standards.

We devote significant resources to maintaining and expanding our relationships with existing dealers. Although most of our dealer agreements allow the dealer to sell services and products from our competitors, we believe dealers find our proprietary technology and operations platform, established supply chain group, commitment to training, quality of service and prompt payment to be an incentive to prioritize selling our services. Furthermore, many of our dealers may be hesitant to work with our competitors that have developed internal sales and installation personnel that may compete with certain aspects of the dealers' business. Taken as a whole, we believe these considerations promote long-lasting relationships with our dealers.

For the years ended December 31, 2020 and 2019, Trinity Solar, Inc. ("Trinity") accounted for approximately 28% and 41% of our net originations for such periods, respectively. In March 2019, we amended our agreement with Trinity pursuant to which Trinity has agreed to perform services or work exclusively for us for four years, with certain exceptions, including (a) the sale of solar energy systems to individuals on a "cash" basis that do not involve any third-party financing, (b) the sale of solar

energy systems pursuant to customer agreements we do not elect to accept under the terms of the arrangement and (c) the sale of solar energy systems pursuant to customer agreements executed prior to the date of the amendment to the dealer agreement. In addition, Trinity may market, sell and install solar energy systems for our competitors in instances in which such competitor has provided the leads for such solar energy system customer directly to Trinity. Under this arrangement, we have agreed to provide annual bonuses to Trinity in the amount of $20 million in year one and $10 million each year thereafter, subject to clawback if minimum annual origination targets are not reached and additional per watt incentive payments if higher annual origination targets are exceeded. The minimum and higher origination targets increase by approximately 15% to 20% each year and limits competing work by Trinity to 10% of Trinity's annual gross revenues. Unlike most of our dealer agreements, the arrangement with Trinity does not permit the parties to terminate for convenience and only permits termination in specified circumstances including material breach (subject to applicable cure periods), prolonged force majeure events, a change of control, certain insolvency events or mutual agreement. For purposes of the Trinity agreement, "change of control" means (a) the sale of all or substantially all of the assets of a party or (b) any merger, acquisition, or other transaction or series of transactions that results in a change of ownership of more than fifty percent of the voting securities of a party (other than in connection with an initial public offering of either party or a transfer among Trinity's existing owners). Additionally, the arrangement provides for a $10 million liquidated damages payment by the applicable party in the event of termination for material breach, certain insolvency events of or wrongful termination by the other party.

We have similar contractual arrangements with several other key dealers. For certain other dealers, substantially all of the solar service agreements originated by such dealers are Sunnova agreements, although they are under no exclusivity arrangement. During the year ended December 31, 2020, Infinity Energy, Inc. accounted for 12% of our net originations. No dealer other than Trinity and Infinity Energy, Inc. accounted for more than 10% of our net originations during 2020 or 2019.

Platform of Tools and Services

We have developed a cloud-based technology platform for origination, installation, administration and servicing of our solar energy systems and energy storage systems. All of our dealers are trained in and use this platform. Our software platform includes a proprietary technology suite, including a contact center to assist dealers in lead generation, project tracking and service obligations, a quoting tool to standardize customer quotes and solar service agreements, and other services to manage payments, billing and monitoring. The technology suite also includes tools to streamline the approval process for the design and installation of solar energy systems and energy storage systems and establish a standard process for ongoing service and warranty management. The platform leverages cloud-based infrastructure and software capabilities using multiple third-party providers, including Salesforce, Amazon Web Services, Heroku and FinancialForce. It is compatible with multiple end-user device types, including smartphone, tablet and desktop/laptop interfaces.

We have invested in proprietary software systems and technology that have been designed to tie into third-party platforms and applications of our dealers and other systems. Our key software systems include:

- ***Pricing Tool***: Customer pricing and quoting is delivered by a combination of cloud-based technologies including Genability, PV Watts (a service of the National Renewable Energy Laboratory) and proprietary applications running on Amazon Web Services and Heroku. This collection of tools is made available to us and our dealers through a web, tablet or mobile device interface. We permit dealers to generate solar service agreement quotes and proposal documents on demand for presentation to prospective customers. Each completed quote is transferred into Salesforce for solar service agreement generation, customer access and reporting.

- ***MySunnova***: MySunnova is our online portal for customers that allows them to view their solar energy systems' production history, view energy storage system data, pay their bills, manage their online account and contact information, make referrals and contact our customer service team.

- ***Salesforce***: Salesforce is our central repository and system of record for all contracts, process documentation, customer account information, maintenance information and payment tracking for the life of the solar service agreement. This single system allows for integrated and comprehensive reporting for the entire life cycle of the customer, from quote to end of the solar service agreement term. Many of our other systems interact with the Salesforce platform.

- ***FinancialForce***: FinancialForce is a cloud-based accounting system built on the Salesforce platform. Because it shares similar architecture to our Salesforce system, FinancialForce allows for integration between our operations and accounting.

Customer Agreements

Sunnova Service	Agreement Type(s)	Sunnova Plan(s)	Description	Initial Term
Sunnova Home Solar Service	Lease	Easy Plan™ equipment lease	Lease of solar energy system	25 years
	PPA	Easy Plan™ PPA	Sale of solar energy production	25 years
	Loan	Easy Own Plan™ equipment purchase	Sale of solar energy system	10 or 25 years
Sunnova SunSafe® Solar + Battery Storage Service	Lease	Easy Plan™ equipment lease	Lease of energy storage system to be used with a solar energy system	25 years
	Loan	Easy Own Plan™ equipment purchase	Sale of energy storage system to be used with a solar energy system	10 or 25 years
Sunnova +SunSafe® Add-on Battery Service	Loan	Easy Own Plan™ equipment purchase	Sale of energy storage system to be used with a solar energy system	10 or 15 years
Sunnova Protect Service	Service Plan	Sunnova Protect Service	Monitoring and warranty services for non-Sunnova solar energy systems	1, 5, 10 or 20 years
Roof Replacement	Loan	Easy Own Plan™ equipment purchase	Roof replacement (partial or full) when combined with either a Home Solar Service or Sunnova SunSafe offering	10 or 25 years

We focus on growing a geographically diverse customer base with a strong credit profile. We perceive our recurring customer payments as high-quality assets given the broad and relatively inelastic demand for electricity and because our customers typically have high credit scores. As of December 31, 2020, our customers had, at the time of signing the solar service agreement, an average FICO® score of 740. The purpose of our stringent credit approval policy is to ensure reliability of collecting payment over the duration of the solar service agreements. As of December 31, 2020, approximately 1.0% of our customers were in default (over 120 days past due) under their solar service agreements.

Most of our solar service agreements have an initial term of 25 years with an opportunity for customers to renew for up to an additional 10 years via two five-year renewal periods. The customer is obligated to make payments to us on a monthly basis, and we operate and maintain the solar energy system and energy storage system, if applicable, in good condition throughout the duration of the agreement. Under our lease agreements and PPAs, the customer's monthly payment or price per kilowatt hour ("kWh") is set based on a calculation that takes into account expected solar energy generation. The customer has an option of choosing a flat rate without an escalator or a lower initial rate with an escalator. As of December 31, 2020, approximately 64% of our lease agreements and PPAs contained a price escalator, ranging from 0.9% to 3.0% annually.

Our home solar service agreements are designed to offer the customer energy cost savings and bill stability relative to centralized utility prices, often resulting in an immediate reduction in the customer's overall utility bill, with little or no upfront costs. We provide our services through long-term residential solar service agreements in the following formats:

- *Lease Agreements*. Under a lease agreement, or Easy Plan equipment lease, the customer leases a solar energy system from us at a fixed monthly rate that is typically subject to annual escalation. We own, operate and maintain the solar energy system under our lease agreements. In most cases, lease agreements include a performance guarantee under which we will refund payments or credit the customer if the solar energy system fails to meet a guaranteed minimum level of power production for specified time periods.

- *PPAs*. We offer PPAs with variable monthly payments or balanced monthly payments. We own, operate and maintain the solar energy system under our PPAs.

    - *Easy Plan PPA with variable billing*. The customer agrees to pay for all power generated by a solar energy system at a price per kWh that is generally lower than the local utility rate. The monthly payment will vary month to month based on the system's actual production. The monthly rate is generally subject to annual escalation.

    - *Easy Plan PPA with balanced billing*. This is similar to the variable billing option except the customer's payments are levelized over the course of a year based on an annual production estimate so the customer's payments are insulated from monthly fluctuations in energy production subject to a true-up at the end of such period. The fixed monthly rate is typically subject to annual escalation. Should the annual production estimate exceed actual

production, the customer will receive a bill credit at the end of the applicable period and we may decrease the estimated production (and corresponding monthly payments) for the subsequent year. Should actual production exceed the annual estimate, we may apply the overproduction to a subsequent year or increase the estimated annual production and corresponding monthly payments for the subsequent year. The estimated annual production will not increase more than 110% from the estimated annual production for the first year.

- *Loan Agreements*. Pursuant to an Easy Own Plan equipment purchase agreement, the customer purchases the solar energy system from a dealer using financing provided by us. The customer repays the amount financed plus a finance charge through monthly payments for a term of 10 or 25 years. We purchase the Easy Own Plan equipment purchase agreement from the dealer and agree to operate and maintain the solar energy system. We operate and maintain the solar energy system through our network of dealers. In most cases, Easy Own Plan equipment purchase agreements include a production guarantee under which we will refund payments or credit the customer if the solar energy system fails to meet a guaranteed minimum level of power production for specified time periods. Customers under our Easy Own Plan equipment purchase agreements have the option to prepay outstanding principal amounts, in part or in full, without penalty.

- *Energy Storage Systems*. Our Sunnova SunSafe program offers customers the option of a solar energy system integrated with a solar storage system. The customer can either choose an Easy Plan equipment lease or Easy Own Plan equipment purchase plan. These are similar to our Easy Plan equipment lease and Easy Own Plan equipment purchase for home solar services but include energy storage systems with the solar energy system. The customer may select a term of 10 or 25 years for the Easy Own Plan equipment purchase. These agreements have a production guarantee, similar to the home solar service Easy Plan equipment lease and Easy Own Plan equipment purchase plans, except in Guam, Saipan, Hawaii, Puerto Rico and Florida. Additionally, we introduced the Sunnova +SunSafe agreement to existing customers in several states and territories, under which the customer purchases the energy storage system from a dealer using financing provided by us. Under the Sunnova +SunSafe agreement, the customer repays the amount financed plus a finance charge through monthly payments for a term of 10 or 15 years.

- *Sunnova Protect Services*. For solar energy systems not owned or sold by us, our Sunnova Protect Services agreements provide customers maintenance and repairs as well as system monitoring and diagnostics. We provide three levels of service: (a) Basic, which is monitoring only; (b) Premium, which is monitoring plus repair and/or replacement of all equipment under a manufacturer's warranty; and (c) Platinum, which is monitoring, repair and/or replacement of all equipment under and outside the manufacturer's warranty and a production guarantee. The customer may select the level of service and a term of 1, 5, 10 or 20 years. Prior to commencing coverage, we will run a diagnostic evaluation on the customer's solar energy system and will identify any underperforming equipment and estimate production. The customer may elect to repair underperforming equipment, on a time and materials basis, so that it may be included in the coverage going forward. Should the underperforming equipment not be repaired, it will not be covered under the Sunnova Protect Services agreement.

- *Roof Replacement*. Our roof replacement program offers customers the option to bundle financing for a new roof (partial or full) with a new home solar service or Sunnova SunSafe Solar + Battery Storage Service agreement.

As of December 31, 2020, approximately 31% of our customers had lease agreements, approximately 51% had PPAs, and approximately 17% had loan agreements. Less than 1% of our customers had service plan agreements or roof replacement agreements.

We have developed a standardized protocol and set of policies to qualify potential customers. During the solar energy system origination phase, we review the customer's credit application for compliance with our credit standards. Solar service agreements that are accepted must comply with our underwriting standards, which emphasize the prospective customer's ability to pay and the value of the customer's estimated savings under the solar energy service agreement compared to traditional utility rates.

We maintain reporting and controls in place to monitor the timeliness of customer payments. As of December 31, 2020, approximately 92% of all payments received pursuant to our solar service agreements are collected via Automated Clearing House payments (i.e., the funds are deducted automatically on a monthly basis from the customer's bank account), approximately 4% are collected via automatic recurring credit card payments and approximately 4% are collected through non-recurring means. If a customer becomes delinquent on one or more monthly installment payments, we typically begin a collection process with respect to the customer.

In the event that a customer elects to sell his or her home, the customer's solar service agreement may be transferred to the prospective purchaser through prescribed reassignment procedures, subject to certain conditions related to the prospective purchaser's creditworthiness. To initiate the reassignment process, the customer must notify us of the pending sale, after which we will provide a copy of the solar service agreement, including any amendments, to the prospective purchaser. The prospective purchaser will then be required to complete a customer profile and a credit application. Each prospective purchaser's FICO® Score and Experian TEC Score (Telecommunications, Energy and Cable) will be evaluated on the same basis as a customer in a new origination and will be evaluated by our computer auto-decisioning system.

In the event that a prospective purchaser does not meet our credit criteria or elects not to be subject to such credit inquiry, the current customer will be required to prepay the solar service agreement in full or the prospective purchaser will be required to provide a security deposit in cash in accordance with such customer's solar service agreement or our transfer policy prior to the approval of the reassignment. Each such security deposit is held in a separate account until the earlier of (a) the time at which the prospective purchaser satisfies our established credit criteria or (b) upon 12 consecutive months of on-time payments following the date of reassignment.

On a case-by-case basis, we may remove a solar energy system and, if applicable, energy storage system from the property on which it is installed if, among other reasons, the solar service agreement is canceled or otherwise terminated, the customer or solar energy system and energy storage system is relocated, any of the component parts are damaged or the new homeowner rejects the reassignment of the solar service agreement upon home transfer, if applicable.

Monitoring and Maintenance Service and Warranties

Our residential solar service agreements typically are accompanied by a warranty and/or monitoring and service agreement. The warranty and monitoring services provided with each type of solar service agreement vary but can include operations and maintenance, equipment repairs, monitoring or site power controls and management for both supply and demand. Additionally, our Sunnova Protect program offers monitoring, service and production guarantees across three tiers of service for solar energy systems owned by the homeowner and installed by a third party.

Regardless of the type of our solar service agreement, we provide ongoing service during the entire term of the customer relationship, including monitoring, maintenance and warranty services of the solar energy system and energy storage system, if applicable. We have an operations and maintenance administration organization consisting of administration staff and a dedicated residential monitoring and production team that evaluates the solar energy systems' and energy storage systems' performance daily. When a performance or operation issue is detected via our monitoring system, we provide or arrange for troubleshooting or field services as necessary. We rely on our dealer network and our own personnel to complete the field services required to maintain the solar energy systems. After completion of the resolution steps, the maintenance administration organization verifies remotely the issue has been resolved and the system or energy service is performing as expected.

Additionally, customers under our solar service agreements receive a range of warranties on the related solar energy systems and energy storage systems, including warranties for module production and against defects in workmanship and against component or materials breakdown. We also provide the customers with a warranty on roof penetrations of up to 10 years in compliance with applicable state, territorial or local law. Through our agreements with our dealers, the dealer is obligated, at its sole cost and expense, to correct defects in its installation work for a period of 10 years and provide a roof warranty on roof penetrations of 5 to 10 years. Furthermore, we provide a pass-through of the solar photovoltaic panel manufacturers' warranty coverage to our customers, generally of 25 years, and of the inverter and energy storage system manufacturers' warranty coverage, typically of 10 to 25 years. We typically exercise our rights under the manufacturer's equipment warranties or dealer installation warranties before incurring direct charges or costs. Many service expenses are borne by our dealers and not us directly because of the workmanship warranty provided by the dealers to us. Additionally, many component costs are covered by manufacturer warranties.

Seasonality

The amount of electricity our solar energy systems produce is dependent in part on the amount of sunlight, or irradiation, where the assets are located. Because shorter daylight hours in winter months and poor weather conditions due to rain or snow results in less irradiation, the output of solar energy systems will vary depending on the season or the year. While we expect seasonal variability to occur, the geographic diversity in our assets helps to mitigate our aggregate seasonal variability.

Our Easy Plan PPAs with variable billing are subject to seasonality because we sell all the solar energy system's energy output to the customer at a fixed price per kWh. Our Easy Plan PPAs with balanced billing are not subject to seasonality (from a cash flow perspective or the customer's perspective) within a given year because the customer's payments are levelized on an

annualized basis so we insulate the customer from monthly fluctuations in production. However, our Easy Plan PPAs with balanced billing are subject to seasonality from a revenue perspective because, similar to the Easy Plan PPAs with variable billing, we sell all the solar energy system's energy output to the customer. Our lease agreements are not subject to seasonality within a given year because we lease the solar energy system to the customer at a fixed monthly rate and the reference period for any production guarantee payments is a full year. Finally, our loan agreements are not subject to seasonality within a given year because the monthly installment payments for the financing of the customers' purchase of the solar energy system are fixed and the reference period for any production guarantee is a full year.

In addition, weather may impact our dealers' ability to install solar energy systems and energy storage systems. For example, the ability to install solar energy systems and energy storage systems during the winter months in the Northeastern U.S. is limited. This can impact the timing of when solar energy systems and energy storage systems can be installed and when we can acquire and begin to generate revenue from solar energy systems and energy storage systems.

Intellectual Property

We rely on intellectual property laws, primarily a combination of copyright and trade secret laws in the U.S., as well as license agreements and other contractual provisions, to protect our proprietary technology. We also rely on several registered and unregistered trademarks to protect our brand. In addition, we generally require our employees and independent contractors involved in the development of intellectual property on our behalf to enter into agreements to limit access to, and disclosure and use of, our confidential information and proprietary technology. We also continue to expand our technological capabilities through licensing technology and intellectual property from third parties.

Government Regulations

While we are not regulated as extensively as a public utility where our business is conducted in the U.S., we are subject to various national, state, territorial and other local regulatory regimes. For example, in California and New York, we are subject to regulations concerning marketing and contracting promulgated by state public utility commissions. In some states, such as Arizona and Florida, we are limited to offering only a lease agreement or a loan agreement to homeowners and are prohibited from offering a PPA, which is deemed a retail sale of electricity in such states and can only be made by a regulated utility. In Puerto Rico, we are subject to regulation as an electric power company by the Puerto Rico Energy Bureau and are required to comply with certain filing, certification, reporting and annual fee requirements. Regulation by the Puerto Rico Energy Bureau as an electric power company does not currently subject us to centralized utility-like regulation or require the Puerto Rico Energy Bureau's approval of charges to customers.

To operate the solar energy systems and energy storage systems, our dealers work with customers to obtain interconnection permission from the applicable local electric distribution utility. In many states and territories, by statute, regulations or administrative order, there are standardized procedures for interconnecting distributed residential solar energy and related energy storage systems to the electric utility's local distribution system. In some states, such as New Jersey and Massachusetts, certain utilities such as municipal utilities or electric cooperatives are exempt from some interconnection requirements. Provided that the system and energy, if applicable, qualify for the standardized procedures based upon size, use of industry-standard components, location on a suitable local network and other applicable requirements, utilities in some states or territories are required to interconnect qualifying solar energy systems and energy storage systems on an expedited basis relative to non-qualifying systems. Expedited procedures, when available, streamline the installation and interconnection process for solar energy systems and energy storage systems to begin operating. In the U.S. states and territories in which we operate, our dealers typically obtain interconnection permission on behalf of us and our customers using standardized interconnection procedures.

In certain states, such as California, independent solar energy producers who enter into solar service agreements with homeowners for residential solar energy systems are required to make certain disclosures to the homeowner regarding the solar energy system and the terms of the agreement and record a notice against the title to the real property on which the electricity is generated and against the title to any adjacent real property on which the electricity will be used. The notice does not constitute a title defect, lien or encumbrance against the real property.

In June 2019, the U.S. Environmental Protection Agency ("EPA") issued the final Affordable Clean Energy ("ACE") rule replacing the previous Clean Power Plan, which established standards to limit carbon dioxide emissions from existing power generation facilities and was expected to increase the cost of certain forms of fossil fuel-derived energy. We estimate the power generated by our solar energy systems has displaced more than 1.8 million metric tons of carbon emissions based on approximately 2.5 billion kWh of electricity produced since our inception and applying the EPA's online greenhouse gas equivalencies calculator (https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator). The ACE rule would establish

emission guidelines for states to develop plans to limit greenhouse gas emissions from existing coal-fired power plants but does not have the expected increase in cost for fossil fuel-derived energy. We cannot predict what effects, if any, the ACE rule may have on photovoltaic solar markets.

Our operations, as well as the operation of our dealers, are subject to stringent and complex federal, state, territorial and local laws, including regulations governing the occupational health and safety of employees, wage regulations and environmental protection. For example, we and our dealers are subject to the regulations of the U.S. Department of Labor, Occupational Safety and Health Administration ("OSHA"), the U.S. Department of Transportation ("DOT"), the EPA and comparable state and territorial entities that protect and regulate employee health and safety and the environment. These include, for example, regulations regarding the disposal of solid and hazardous wastes from the solar energy systems we own. In addition, environmental laws can result in the imposition of liability in connection with end-of-life system disposal, such as in connection with disposal and recycling of batteries.

We and our dealers are also subject to laws and regulations relating to interactions with residential consumers, including those pertaining to sales and trade practices, privacy and data security, equal protection, consumer financial and credit transactions, consumer collections, mortgages and re-financings, home improvements, trade and professional licensing, warranties and various means of customer solicitation, as well as specific regulations pertaining to solar installations.

For a discussion of these and other regulatory requirements, see "*Risk Factors—Risks Related to Regulations*".

Government Incentives

U.S. federal, state, territorial and local governments have established various incentives and financial mechanisms to reduce the cost of solar energy and to accelerate the adoption of solar energy. These incentives come in various forms, including rebates, tax credits and other financial incentives such as payments for renewable energy credits associated with renewable energy generation, exclusion of solar energy systems and energy storage systems from property tax assessments, system performance payments, accelerated depreciation and net energy metering, or net metering, programs. These incentives make solar energy system and energy storage system ownership more attractive to some homeowners and enable us to charge our customers lower prices to purchase energy generated by our solar energy systems and energy storage systems or to lease or purchase our solar energy systems and energy storage systems than they would normally be expected to pay for utility-provided energy. These incentives also help catalyze private sector investments in solar energy and efficiency measures, including the installation and operation of residential and commercial solar energy systems and energy storage systems.

Net metering is one of several key policies that have enabled the growth of distributed solar in the U.S., providing significant value to certain customers with solar energy systems for the electricity generated by their systems but not directly consumed on site. Net metering allows a customer to pay the local electric utility only for power usage net of excess production from the customer's solar energy system. Customers receive a credit for the energy an interconnected solar energy system generates in excess of that needed by the home, which is provided to the electrical grid. The credit offsets energy usage incurred by the customer at times when the customer requires more electricity than is generated by the solar energy system. In many markets, this credit is equal to the residential retail rate for electricity and in other markets the rate is less than the retail rate and may be based, for example, in whole or in part on the centralized electric utility's "avoided cost" for electricity that it would have had to generate or purchase at wholesale to meet the customer's demand. Furthermore, when coupled with a time of use rate program in certain electric utility territories, a homeowner may offset usage billed at lower rates with net metering credits provided at a higher rate.

For these reasons, net metering credits incentivize consumers to use distributed solar in certain jurisdictions, including some of those in which we operate. In some electric utility territories, any excess credits are rolled over to the next billing period and may also be cashed out later at a rate lower than the retail rate. Most states, the District of Columbia, Puerto Rico and Guam have adopted some form of net metering by statute, regulation, administrative order or a combination thereof, although some of these jurisdictions provide for a credit at less than the retail rate. In some jurisdictions, centralized electric utilities have also adopted net metering on a voluntary basis. Some of the states in which we operate, including New Jersey, Maryland, Massachusetts, Rhode Island, Delaware, Illinois and Hawaii, have in place policies that limit or permit utilities to limit the amount of total electricity generated through net metering and/or solar energy systems, and some of these states, as well as other states or territories, including Pennsylvania, Nevada, New Mexico and Guam, have policies that limit or place conditions on the size of individual solar energy systems.

Net metering and other incentive programs are subject to legislative and regulatory review in many states and territories in which we operate and the availability and value of these programs could be limited, reduced or phased out. Some states such as Arizona, Nevada and Kentucky have reduced their net metering credits. Further reviews by these states and others are

anticipated and the subsequent amount of net metering credits will continue to be assessed over the next few years in states that have net metering policies. For example, net metering rates in California, Connecticut, Puerto Rico and South Carolina are up for consideration over the next few years. New York is working on developing an alternative to net metering through a Value of Distributed Energy Resources credit that would allow certain customers to receive direct monetary compensation as opposed to a net metering credit. This program was expected to be implemented in 2021 but has been delayed due to not enough utilities having deployed smart meters that would enable an accurate valuation of distributed energy production. New York is keeping net metering in place with a nominal customer benefit charge added for solar customers installing solar energy systems after January 1, 2022. Other states such as California have implemented non-bypassable fees for customers enrolled in a net metering program, which requires customers to pay certain fees regardless of whether they are drawing energy from the electrical grid. California has also initiated a proceeding to review its current net metering policies and adopt a successor program by the end of 2021. As a result of the Definitive Restructuring Support Agreement ("DRSA") between the Puerto Rico Electric Power Authority ("PREPA") and its creditors submitted in May 2019, which is currently pending before the U.S. District Court for the District of Puerto Rico, net metering customers in Puerto Rico may be impacted by transition charges and other requirements. Several legislators publicly oppose the DRSA and negotiations on the DRSA will continue in 2021.

In September 2020, the Federal Energy Regulatory Commission ("FERC") issued Order 2222 directing regional transmission operators ("RTO") and independent system operators ("ISO") to remove barriers to the participation of distributed energy resources ("DERs") in wholesale electricity markets on an aggregated basis. While the FERC's order is subject to challenge as well as further proceedings concerning the implementation of the order's directives in each of the RTOs/ISOs, Order 2222 provides a framework that once implemented will allow for aggregated DERs to be compensated through the wholesale market for the capacity, energy and ancillary services they provide. In late 2020, Sunnova began offering its lease storage customers participation in the ConnectedSolutions demand response program through EverSource and National Grid utilities in Massachusetts. Sunnova expects to expand these offerings for its Connecticut, Rhode Island and New Hampshire customers in early 2021. Further, Sunnova will seek to participate in market specific opportunities and negotiate bilateral agreements where appropriate, to enroll systems and customers in energy management and demand response programs.

Many states and territories have adopted renewable portfolio energy production requirements. The majority of states, the District of Columbia and Puerto Rico have adopted a renewable portfolio standard ("RPS") that requires regulated electric utilities to generate or procure a specified percentage of total electricity delivered to customers in the state or territory from eligible renewable energy sources, such as solar energy systems, by a series of specified dates. In addition, several other states have set voluntary goals for renewable generation.

Roughly one-third of states with RPS policies require a minimum portion of the RPS be met by electric generation from solar energy systems, with substantial penalties for non-compliance. To demonstrate compliance with such RPS mandates, electric generation providers must submit state renewable energy certificates ("SRECs") to the applicable authority. One SREC is produced by one megawatt-hour of energy generated by an eligible solar energy system. The specified amount of energy is dependent on system size and when the solar energy system receives a "permission to operate" order. Electric generation providers can either generate their own SRECs through solar energy systems they own or they can purchase SRECs owned by other parties.

SRECs are a distinct product, separate from the electricity generated by solar energy systems. We and our customers apply for and receive SRECs in certain jurisdictions for power generated by the solar energy systems we own. As a distinct product from the electricity generated by solar energy systems, SRECs represent a separate source of cash flow from the sale of electricity. SRECs can be sold with or without the actual electricity associated with the renewable-based generation. Solar energy system owners are typically able to sell SRECs to electric generation providers, such as electric utilities, or in the SREC commodity market. We have hedged a portion of our expected SREC production under fixed price forward contracts. The forward contracts require us to physically deliver the SRECs upon settlement.

Several states have an energy storage mandate or policies designed to encourage the adoption of storage. For example, California offers a cash rebate for storage installations through the Self Generation Incentive Program and Massachusetts and New York offer performance-based financial incentives for storage. Storage installations also are supported in certain states by state public utility commission policies that require utilities to consider alternatives such as storage before they can build new generation. In February 2018, the FERC issued Order 841 directing RTOs and ISOs to remove barriers to the participation of storage in wholesale electricity markets and to establish rules to help ensure storage resources are compensated for the services they provide. An appeal of Order 841 filed by utility trade associations and other parties challenging the extent of the FERC's jurisdiction over storage resources connected to distribution systems was rejected by the U.S. Court of Appeals for the D.C. Circuit in July 2020.

Some state and territorial governments, centralized electric utilities, municipal utilities and co-operative utilities offer a cash rebate or other payment incentive for the installation and operation of a solar energy or energy storage system or to customers undertaking other energy efficiency measures. Capital cost or "up-front" rebates provide funds to solar customers or developers or solar energy system owners, such as us, based on the cost, size or expected production of a customer's solar energy system. Performance-based incentives and tariff-based incentives provide payments to solar customers or a solar energy system owner based on the energy generated by the solar energy system during a pre-determined period. These rebates and payment incentives, when available, improve the economics of distributed solar to both us and our customers.

The economics of purchasing a solar energy system and energy storage system are also improved by eligibility for accelerated depreciation, which allows for the depreciation of equipment according to an accelerated schedule set forth by the IRS. This accelerated schedule allows a taxpayer to recognize the depreciation of tangible solar property on a five-year basis even though the useful life of such property is greater than five years. The acceleration of depreciation creates a valuable tax benefit that increases the return on investment from a solar energy system and energy storage systems. We benefit from accelerated depreciation on the solar energy systems and energy storage systems we own.

The federal government currently provides business investment tax credits under Section 48(a) (the "Section 48(a) ITC") and residential energy credits under Section 25D (the "Section 25D Credit") of the U.S. Internal Revenue Code of 1986, as amended (the "Code"). In December 2020, the U.S. enacted the Taxpayer Certainty and Disaster Tax Relief Act of 2020 (the "TCDTR Act") featuring significant tax provisions, including certain extensions and modifications of the Section 48(a) ITC and the Section 25D Credit. Starting January 1, 2020, the Section 48(a) ITC allows taxpayers to claim a federal tax credit equal to 30% of the basis of eligible solar property that began construction before 2020 if placed in service before 2026. Under the TCDTR, the Section 48(a) ITC percentage decreases to 26% for eligible solar property that begins construction during 2020, 2021 or 2022, 22% for 2023 and 10% if construction begins after 2023 or if the property is placed into service after 2025. IRS guidance as to when construction is considered to begin for such purposes includes a safe harbor that may apply when a taxpayer pays or incurs (or in certain cases, a contractor of the taxpayer pays or incurs) 5% or more of the costs of a solar energy system before the end of the applicable year (the "5% ITC Safe Harbor"), even though the solar energy system is not placed in service until after the end of that year. We are also able to claim the Section 48(a) ITC for energy storage systems installed in conjunction with solar energy systems as long as they are only charged by on-site solar. A reduced Section 48(a) ITC may be available for energy storage systems charged in part from sources other than on-site solar as long as the solar energy systems are charged at least 75% by on-site solar.

Until 2023, the Section 25D Credit allows an individual to claim a federal tax credit equal to 26% of qualified expenditures with respect to a residential solar energy system that is owned by the homeowner. This 26% rate was reduced from 30% for solar energy systems placed in service prior to 2020 and, under the TCDTR, is scheduled to be reduced to 22% for solar energy systems placed in service during 2023. The Section 25D Credit is scheduled to expire under the TCDTR effective January 1, 2024. The Section 25D Credit reduces the cost of consumer ownership of solar energy systems, such as under loan agreements.

Certain states and territories in which we operate offer a personal and/or corporate investment or production tax credit for solar energy. Further, most of the states and local jurisdictions have established sales and/or property tax incentives for renewable energy systems that include exemptions, exclusions, abatements and credits. For a discussion of these and other governmental incentives, see "*Risk Factors—Risks Related to Regulations*".

Competition

We believe our primary competitors are centralized electric utilities that supply electricity to our potential customers. We compete with these centralized electric utilities primarily based on price (cents per kWh), predictability of future prices (by providing pre-determined annual price escalations, where applicable), reliability and the ease by which customers can switch to electricity generated by solar energy systems. We believe we compete favorably with centralized electric utilities based on these factors in the states and territories where our solar service agreements are offered.

We also compete with retail electric providers and independent power producers that are not regulated like centralized electric utilities but have access to the centralized utilities' electricity transmission and distribution infrastructure pursuant to state, territorial and local pro-competitive and consumer choice policies. Furthermore, we compete with solar companies with vertically integrated business models, such as Sunrun Inc. and Sunlight Financial LLC. In addition, we compete with other solar companies who sell or finance products directly to consumers, inclusive of programs like Property-Assessed Clean Energy, such as Loanpal, LLC and Mosaic, Inc. For example, we face competition from solar installation businesses that seek financing from external parties or utilize competitive loan products or state and local programs. In the future, we may also compete with solar companies that have business models similar to our own, some of which are marketed to potential customers by our

dealers. We compete with these companies based on the competitiveness of the products, the overall customer relationship and the commissions we are willing to pay dealers for the origination of new customers.

Suppliers

The major components of the solar energy systems include solar photovoltaic panels that turn sunlight into direct current ("DC") electricity, inverters that convert solar-generated DC electricity into alternating current ("AC") electricity, the form of energy used by most standard household appliances, racking systems that attach the solar photovoltaic panels to the roof or ground, a remote monitoring system that measures and monitors all energy generated by the solar energy system and provides alerts about system performance and, in some cases, an energy storage system that stores excess energy generated by the photovoltaic panels to supplement energy supply during hours when energy consumption exceeds energy produced by the photovoltaic panels. The solar energy system may also be connected to the electrical grid or other supplemental energy sources, such as fuel cells and generators, with additional wiring and electrical hardware.

We require our dealers to choose all major components of the solar energy system or energy storage system from a pre-approved list of manufacturers and models. By allowing dealers to choose from several manufacturers and models without direct supplier obligations, we have greater flexibility to satisfy customer demand, ensure competitive pricing and adequate supply of components and reduce the concentration of warranty risks. We have entered into master contractual arrangements with each vendor on our pre-approved list of vendors that defines the general terms and conditions of our purchases and those of our dealers, including warranties, product specifications, indemnities, delivery and certain other terms. Our dealers typically purchase solar panels and inverters on an as-needed basis from our pre-approved suppliers at then-prevailing prices pursuant to purchase orders having the benefit of our master contractual arrangements. At times, we will also procure equipment directly and sell it to our dealers.

We evaluate and qualify our manufacturers and their product offerings based on total cost of ownership, reliability, warranty coverage, credit quality and other factors. All equipment must be listed on the California Energy Commission's SB1 List of Eligible Equipment. All approved solar photovoltaic panels must have a minimum 25-year power warranty and 10-year workmanship warranty. We also require approved solar photovoltaic panels to undergo extended reliability testing as an indication of a 25-year or greater lifetime. Beginning in April 2016, we required all our manufacturers carry a 25-year warranty, or offer a warranty extension to 25 years, on all product offerings to be eligible for inclusion on our approved vendor list. Prior to April 2016, we sourced inverter manufacturers offering a warranty of no less than 10 years. All approved racking systems are required to be solar energy system Fire Class Rated "A" with a Type 1 module per recent California Fire requirements. Additionally, the racking system must have a Professional Engineers stamp as proof of structural analysis and wind speed certification and the racking system must be certified as conforming to the integrated grounding and bonding requirements of UL Subject 2703. All replacement parts and components must meet or exceed the same standards as those of the original installation.

In September 2018, the Office of the United States Trade Representative ("USTR") determined to modify its prior actions in its investigation into certain acts, policies and practices of the government of China related to technology transfer, intellectual property and innovation pursuant to Section 301 of the Trade Act of 1974 by imposing an additional 10% duty on $200 billion worth of products from China, including inverters. In May 2019, the tariffs were increased from 10% to 25% and may be raised by the USTR in the future. If inverter production is not shifted to other countries before any tariff rate increase on these products, the price of inverters could increase. However, the cost of solar photovoltaic panels and inverters generally do not comprise a meaningful portion of our operating expenses. In addition, many of the solar photovoltaic panel and inverter manufacturers on our approved vendor list are from countries other than China, including Canada, the U.S., Vietnam and Malaysia. See "*Risk Factors—Increases in the cost of our solar energy systems due to tariffs imposed by the U.S. government could have a material adverse effect on our business, financial condition and results of operations".* These tariffs have not had a material impact on our business or our operations.

For the year ended December 31, 2020, Hanwha Q-Cells and Longi Solar supplied approximately 49% and 20%, respectively, of our solar photovoltaic panels installed and no other supplier represented more than 10% of our solar photovoltaic panels installed. For the year ended December 31, 2019, Hanwha Q-Cells and Yingli Green Energy supplied approximately 50% and 17%, respectively, of our solar photovoltaic panels installed and no other supplier represented more than 10% of our solar photovoltaic panels installed. For the year ended December 31, 2020, Enphase Energy, Inc. and SolarEdge Technologies Inc. accounted for approximately 73% and 27%, respectively, of the inverters used in our solar energy system installations. For the year ended December 31, 2019, Enphase Energy, Inc. and SolarEdge Technologies Inc. accounted for approximately 58% and 42%, respectively, of the inverters used in our solar energy system installations. For the year ended December 31, 2020, Tesla, Inc. and Enphase Energy, Inc. accounted for approximately 82% and 18%, respectively, of our energy storage system purchases. For the year ended December 31, 2019, Tesla, Inc. accounted for 100% of our energy storage

system purchases. Our dealers generally source the additional equipment and parts needed for installation of the solar energy systems, such as fasteners, wiring and electrical fittings, through distributors or direct purchase procurement from manufacturers.

Human Capital Management

Our core company values are service, synergy and sustainability. Our core value of service reflects our belief in providing a better energy service to the communities we serve. Our core value of sustainability reflects our belief we do well by doing good. Our core value of synergy reflects our belief we can achieve more by working together. We are focused on collectively advancing Sunnova and the energy industry through collaboration, integrity, respect and long-term trusted relationships, which includes our relationship with our employees.

Oversight and Management

We recognize the diversity of our customers, employees and communities, and believe in creating an inclusive and equitable environment that represents a broad spectrum of backgrounds and cultures. Working under these principles, our human resources department is tasked with managing employment-related matters, including recruiting and hiring, onboarding and training, retention, employee relations, compensation and benefits planning, performance management and professional development. Our Board of Directors ("Board") and Board committees provide oversight on certain human capital matters, including our inclusion and diversity programs and initiatives. Our management team regularly reports to the Board regarding programs and initiatives, including compensation, healthcare and other benefits, turnover and retention, as well as our management development and succession planning practices and strategies. Our audit committee works closely with our enterprise risk management function to monitor current and emerging labor and human capital management risks and to mitigate exposure to those risks. Our nominating and corporate governance committee has oversight of our environmental, social and corporate governance practices and procedures and regularly evaluates the effectiveness of our social responsibility policies, goals and programs, which also include employee-related issues. Our compensation committee has oversight of the development, implementation and effectiveness of all pay and benefit programs, as well as succession planning. These reports and recommendations to the Board and its committees and their oversight are part of the broader framework that guides how Sunnova attracts, retains and develops a workforce that aligns with our values and strategies.

We regularly conduct anonymous surveys to seek feedback from our employees on a variety of topics, including but not limited to, confidence in company leadership, competitiveness of our compensation and benefits package, career growth opportunities and improvements on how we could make our company an employer of choice. The results are shared with our employees and reviewed by senior leadership, who analyze areas of progress or deterioration and prioritize actions and activities in response to this feedback to drive meaningful improvements in employee engagement. Our management and cross-functional teams also work closely to evaluate human capital management issues, such as retention, harassment and bullying and safety, as well as to implement measures to mitigate these risks. Our CEO regularly holds townhalls with employees to discuss operating results, announce important initiatives (for example, our recent adoption of a diversity day) and respond to employee questions. Employees are also encouraged to report compliance and ethics issues through our anonymous hotline if they feel uncomfortable speaking directly to their supervisor or management.

Comprehensive Benefits

We believe in investing in our workforce by offering competitive salaries and wages. We also offer comprehensive and competitive benefits to protect the health, wellbeing and financial security of our employees. To foster a stronger sense of ownership and align the interests of employees with our stockholders, eligible non-executive employees are able to participate in our broad-based stock incentive program.

Training and Support

To help our employees succeed in their roles, we emphasize continuous training and development opportunities. These opportunities are offered through e-learning, online/classroom training, online performance management and goal setting, one-on-one coaching, individual development planning and group training initiatives.

Safety

We take our responsibility to ensure the health and safety of our employees very seriously. Our objective is for all employees and contractors to be free of work-related injuries, which are costly and often preventable. It is our goal every person goes home each day free from accidents and injuries. To that end, we have developed a detailed safety program that includes,

but is not limited to, working at heights and roof safety protocols, motor vehicle safe driving operations, electric shock mitigation procedures and pre-storm weather hazard monitoring in the areas in which we operate.

With respect to the COVID-19 pandemic and as a designated essential service, we have adopted safety guidelines and practices that have enabled us to maintain business continuity and keep our employees safe. These practices have included retaining the services and assistance of a reputable health, safety and security advisory consulting firm, ongoing safety and health training for existing and new employees, remote working, adjusted attendance policies, health screening of employees for reported exposure or symptoms, enforcing mandatory periods of self-isolation, contact tracing, provisions for mask wearing, modifications to the in-office work environment, social distancing, increased sanitation stations and increased cleaning of offices and workstations. Please refer to "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Company Overview—Recent Developments"* for additional information regarding our response to the COVID-19 pandemic.

Employee Base

As of December 31, 2020, we had 394 full-time employees and 398 total employees. We also engage independent contractors and consultants. We are not party to any collective bargaining agreements and have not experienced any strikes or work stoppages.

Insurance

We maintain the types and amounts of insurance coverage we believe are consistent with customary industry practices. Our insurance policies cover employee and contractor-related accidents and injuries, property damage, business interruption, storm damage, inventory, vehicles, fixed assets, facilities, cyber risk, crime and general liability deriving from our activities. Our insurance policies also cover directors, officers, employment practices and fiduciary liabilities. We may also be covered for certain liabilities by insurance policies owned by third parties, including, but not limited to, our dealers and vendors.

Available Information

We file annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Exchange Act. The Securities and Exchange Commission ("SEC") maintains a website at www.sec.gov that contains reports, proxy and information statements and other information we file with the SEC electronically. Copies of our reports on Form 10-K, Form 10-Q, Form 8-K and amendments to those reports may also be obtained, free of charge, electronically on the investor relations page on our website located at investors.sunnova.com as soon as reasonably practical after we file such material with, or furnish it to, the SEC.

We also use the investor relations page on our website as a channel of distribution for important company information. Important information, including press releases, analyst presentations and financial information regarding us, as well as corporate governance information, is routinely posted and accessible on the investor relations page on our website. Information on or that can be accessed through our website is not part of this Annual Report on Form 10-K and the inclusion of our website address is an inactive textual reference only.

Item 1A. Risk Factors.

Investing in our common stock involves a high degree of risk. You should carefully consider the risks described below together with all of the other information included in this Annual Report on Form 10-K, including the section titled "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" and our consolidated financial statements and related notes, before deciding to invest in our common stock. We may experience additional risks and uncertainties not currently known to us; or, as a result of developments occurring in the future, conditions that we currently deem to be immaterial may also materially and adversely affect our business, financial condition, cash flows and results of operations. If any of the risks actually occur, they may materially and adversely affect our business, financial condition, cash flows and results of operations. In this event, the trading price of our common stock could decline and you could lose all or part of your investment in us.

Risks Related to Our Business

The ongoing COVID-19 pandemic could adversely affect our business, financial condition and results of operations.

The ongoing COVID-19 pandemic continues to be a rapidly evolving situation. The COVID-19 pandemic and efforts to respond to it have resulted in and may continue to result in widespread adverse impacts on the global economy. We have experienced some resulting disruptions to our business operations as the COVID-19 pandemic has continued to spread through the states and U.S. territories in which we operate. For example, social distancing guidelines, stay-at-home orders and similar government measures associated with the COVID-19 pandemic, as well as actions by individuals to reduce their potential exposure to the virus, contributed to a decline in origination, with new contract origination, net of cancelations, declining in each of March and April 2020 from the previous month. This decline reflected an inability by our dealers to perform in-person sales calls based on the stay-at-home orders in some locations.

We and our dealers modified certain business and workforce practices (including those related to new contract origination, installation and servicing of solar energy systems and employee work locations) to conform to government restrictions and best practices encouraged by governmental and regulatory authorities. As a result, new contract origination, net of cancelations, increased in May through November 2020, with each of the months from June 2020 to November 2020 exceeding the number of new contracts originated, net of cancelations, in February 2020. Such modifications have allowed our dealers to continue to install and us to continue to service solar energy systems, but may also disrupt our operations, impede productivity or otherwise be ineffective in the future. If there are additional outbreaks of the COVID-19 virus or other viruses or more stringent health and safety guidelines are adopted, our and our dealers' ability to continue performing installations and service calls may be adversely impacted. A significant or extended decline in new contract origination may have a material adverse effect on our business, cash flows, liquidity, financial condition and results of operations.

Our future success also depends on our ability to raise capital from third-party investors and commercial sources. In the initial weeks of the COVID-19 pandemic, we saw access to capital markets reduced generally. By June 2020, the terms of and access to capital had improved significantly and by the fourth quarter of 2020, capital market conditions had reached levels comparable to those prior to the COVID-19 pandemic. However, if we are unable to continue accessing the capital markets or are unable to raise funds through our tax equity and warehouse financing transactions at competitive terms, it would adversely impact our ability to finance the deployment of our solar energy systems and energy storage systems and may have a material adverse effect on our business, cash flows, liquidity, financial condition and results of operations.

There is considerable uncertainty regarding the extent and duration of governmental and other measures implemented to try to slow the spread of the COVID-19 virus, such as large-scale travel bans and restrictions, border closures, quarantines, shelter-in-place orders and business and government shutdowns. Some states that had begun taking steps to reopen their economies experienced a subsequent surge in cases of COVID-19, causing these states to cease such reopening measures in some cases and reinstitute restrictions in others. Restrictions of this nature have caused, and may continue to cause, us and our dealers to experience operational delays and may cause milestones or deadlines relating to our exclusivity arrangements to be missed. To date, we have not received notices from our dealers regarding performance delays resulting from the COVID-19 pandemic; however, we have seen delays in most jurisdictions from whom we must receive permission to operate for our solar energy systems to be placed in service. Worsening economic conditions could result in less favorable outcomes over time, which would impact our future financial performance. Further, the effects of the economic downturn associated with the COVID-19 pandemic may increase unemployment and reduce consumer credit ratings and credit availability, which may adversely affect new customer origination and our existing customers' ability to make payments on their solar service agreements. Periods of high unemployment and a lack of availability of credit may lead to increased delinquency and default rates. If existing economic conditions continue for a prolonged period of time or worsen, delinquencies on solar service agreements could increase, which would also negatively impact our future financial performance and the price of our common stock. Finally, if supply chains become significantly disrupted due to additional outbreaks of the COVID-19 virus or other viruses or more stringent health and safety guidelines are implemented, our ability to install and service solar energy systems could become adversely impacted.

We cannot predict the full impact the COVID-19 pandemic or the significant disruption and volatility currently being experienced in the capital markets will have on our business, cash flows, liquidity, financial condition and results of operations at this time due to numerous uncertainties. The ultimate impact will depend on future developments, including, among other things, the ultimate duration of the COVID-19 virus, the distribution, acceptance and efficacy of the vaccine, the depth and duration of the economic downturn and other economic effects of the COVID-19 pandemic, the consequences of governmental and other measures designed to prevent the spread of the COVID-19 virus, actions taken by governmental authorities, customers, dealers and other third parties, our ability and the ability of our customers, potential customers and dealers to adapt to operating in a changed environment and the timing and extent to which normal economic and operating conditions resume.

Historically, we have incurred operating and net losses and we may be unable to achieve or sustain profitability in the future.

We incurred operating losses of $35.8 million, $22.3 million and $13.7 million and net losses of $307.8 million, $133.4 million and $68.4 million for the years ended December 31, 2020, 2019 and 2018, respectively. These historical operating and net losses were due to a number of factors, including increased expenses to fund our growth and related financing needs. We expect to incur significant expenses as we finance the expansion of our operations and implement additional internal systems and infrastructure to support our growth. In addition, as a public company, we incur significant additional legal, accounting and other expenses we did not incur as a private company. We do not know whether our revenue will grow rapidly enough to absorb these costs. Our ability to achieve profitability depends on a number of factors, including:

- growing our customer base and originating new solar service agreements on economic terms;
- maintaining or lowering our cost of capital;
- reducing operating costs by optimizing our operations and maintenance processes;
- maximizing the benefits of our dealer network;
- finding additional tax equity investors and other sources of institutional capital; and
- the continued availability of various governmental incentives for the solar industry.

Even if we do achieve profitability, we may be unable to sustain or increase our profitability in the future.

If our allowance for credit losses is not enough to cover actual credit losses from our customer notes receivable portfolio, our results of operations and financial condition could be negatively affected.

We maintain an allowance for credit losses, which is a reserve that represents our best estimate of actual credit losses we may experience in our existing customer notes receivable portfolio. The level of the allowance reflects our continuing evaluation of factors including the financial asset type, customer credit rating, contractual term, vintage, volume and trends in delinquencies, nonaccruals, write-offs and present economic, political and regulatory conditions. The determination of the appropriate level of the allowance for credit losses inherently involves subjectivity in our modeling and requires us to make estimates of current credit risks and future trends, all of which may undergo material changes or vary from our historical experience. Deterioration in economic conditions affecting our customers, new information regarding existing loans and other factors, both within and outside of our control, may require an increase in the allowance for credit losses. Furthermore, if write-offs in future periods exceed the allowance for credit losses we will need to increase the allowance for credit losses in future periods. Any increases in the allowance for credit losses will result in an increase in net loss and could have a material adverse effect on our business, financial condition and results of operations.

We adopted Accounting Standards Update No. 2016-13, *Financial Instruments—Credit Losses*, in January 2020, which requires entities to use a forward-looking expected loss approach, referred to as the current expected credit loss ("CECL") methodology in place of the previously-used incurred loss model. This resulted in an increase to the allowance for credit losses of $9.9 million. In future periods, CECL may result in increased reserves during or in advance of an economic downturn. If we are required to materially increase our level of allowance for credit losses for any reason, such increase could have a material adverse effect on our business, financial condition and results of operations.

Certain of our key operational metrics, including estimated gross contracted customer value, are based on various assumptions and estimates we make that cover an extended period of time. Actual experience may vary materially from these estimates and assumptions and therefore undue reliance should not be placed on these metrics.

Our key operational metrics include a number of assumptions and estimates we make that cover an extended period of time (up to 35 years) and may not prove accurate. In calculating estimated gross contracted customer value, we estimate projected monthly customer payments over the remaining life of our solar service agreements, which are typically 10, 15 or 25 years in length with an opportunity for customers to renew for up to an additional 10 years, and from the future sale of related SRECs. These estimated future cash flows depend on various factors including but not limited to solar service agreement type, contracted rates, customer loss rates, expected sun hours and the projected production capacity of the solar equipment installed. Additionally, in calculating estimated gross contracted customer value we also estimate cash distributions to tax equity fund investors and operating, maintenance and administrative expenses associated with the solar service agreements, including expenses related to accounting, reporting, audit, insurance, maintenance and repairs over the remaining life of our solar service agreements.

Furthermore, in calculating estimated gross contracted customer value, we discount our future net cash flows at 6% based on industry practice and at 4%, which is based in part on the interest rate on certain recent securitizations. This discount rate might not be the most appropriate discount rate based on interest rates in effect from time to time and industry or company-specific risks associated with these cash flows and the appropriate discount rate for these estimates may change in the future due to the level of inflation, rising interest rates, our cost of capital, customer default rates and consumer demand for solar energy systems, among other things. We also assume customer losses of 0% in calculating these metrics even though we expect to have some minimal level of customer losses over the life of our contracts. To illustrate the way in which actual results may change, we present sensitivities around the discount rate and the rate of customer losses, although these sensitivities may not capture the most appropriate discount rate or the rate of customer losses we will experience. For a discussion of estimated gross contracted customer value and the related discount rate and such sensitivities, see "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Key Financial and Operational Metrics—Estimated Gross Contracted Customer Value*".

PricewaterhouseCoopers LLP has not audited, reviewed, examined, compiled nor applied agreed-upon procedures with respect to these operational metrics or their components. The estimates discussed above are based on a combination of assumptions that may prove to be inaccurate over time. Such inaccuracies could be material, particularly given the estimates relate to cash flows up to 35 years in the future.

Our growth strategy depends on the continued origination of solar service agreements by us and our dealers.

Our growth strategy depends on the continued origination of solar service agreements by us and our dealers. We may be unable to originate additional solar service agreements and related solar energy systems and energy storage systems in the numbers or at the pace we currently expect for a variety of reasons, including, among other things, the following:

- demand for solar energy systems and energy storage systems failing to develop sufficiently or taking longer than expected to develop;
- residential solar energy technology being available at economically attractive prices as a result of factors outside of our control, including utility prices not rising as quickly as anticipated;
- issues related to identifying, engaging, contracting, compensating and maintaining relationships with dealers and the negotiation of dealer agreements;
- issues related to financing, construction, permitting, the environment, governmental approvals and the negotiation of solar service agreements;
- a reduction in government incentives or adverse changes in policy and laws for the development or use of solar energy, including net metering, SRECs and tax credits;
- other government or regulatory actions that could impact our business model;
- negative developments in public perception of the solar energy industry; and
- competition from other solar companies and energy technologies, including the emergence of alternative renewable energy technologies.

If the challenges of originating solar service agreements and related solar energy systems and energy storage systems increase, our pool of available opportunities may be limited, which could have a material adverse effect on our business, financial condition, cash flows and results of operations.

If sufficient additional demand for residential solar energy systems does not develop or takes longer to develop than we anticipate, our ability to originate solar service agreements may decrease.

The distributed residential solar energy market is at a relatively early stage of development in comparison to fossil fuel-based electricity generation. If additional demand for distributed residential solar energy systems fails to develop sufficiently or takes longer to develop than we anticipate, we may be unable to originate additional solar service agreements and related solar energy systems and energy storage systems to grow our business. In addition, demand for solar energy systems and energy storage systems in our targeted markets may not develop to the extent we anticipate. As a result, we may be unsuccessful in broadening our customer base through origination of solar service agreements and related solar energy systems and energy storage systems within our current markets or in new markets we may enter.

Many factors may affect the demand for solar energy systems, including the following:

- availability, substance and magnitude of solar support programs including government targets, subsidies, incentives, renewable portfolio standards and residential net metering rules;

- the relative pricing of other conventional and non-renewable energy sources, such as natural gas, coal, oil and other fossil fuels, wind, utility-scale solar, nuclear, geothermal and biomass;
- performance, reliability and availability of energy generated by solar energy systems compared to conventional and other non-solar renewable energy sources;
- availability and performance of energy storage technology, the ability to implement such technology for use in conjunction with solar energy systems and the cost competitiveness such technology provides to customers as compared to costs for those customers reliant on the conventional electrical grid; and
- general economic conditions and the level of interest rates.

The residential solar energy industry is constantly evolving, which makes it difficult to evaluate our prospects. We cannot be certain if historical growth rates reflect future opportunities or whether growth anticipated by us will be realized. The failure of distributed residential solar energy to achieve, or its being significantly delayed in achieving, widespread adoption could have a material adverse effect on our business, financial condition and results of operations.

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

We have experienced significant growth in recent periods measured by our number of customers and we intend to continue our efforts to expand our business within existing and new markets. This growth has placed, and any future growth may place, a strain on our management, operational and financial infrastructure. Our growth requires our management to devote a significant amount of time and effort to maintain and expand our relationships with customers, dealers and other third parties, attract new customers and dealers, arrange financing for our growth and manage our expansion into additional markets.

In addition, our current and planned operations, personnel, information technology and other systems and procedures might be inadequate to support our future growth and may require us to make additional unanticipated investments in our infrastructure. Our success and ability to further scale our business will depend, in part, on our ability to manage these changes in a cost-effective and efficient manner.

If we cannot manage our operations and growth, we may be unable to meet our expectations regarding growth, opportunity and financial targets, take advantage of market opportunities, execute our business strategies, meet our tax equity financing commitments or respond to competitive pressures. This could also result in declines in quality or customer satisfaction, increased costs, difficulties in introducing new offerings or other operational difficulties. Any failure to effectively manage our operations and growth could adversely impact our reputation, business, financial condition, cash flows and results of operations.

A material reduction in the retail price of electricity charged by electric utilities or other retail electricity providers would harm our business, financial condition and results of operations.

Decreases in the retail price of electricity from electric utilities or from other retail electric providers, including other renewable energy sources such as larger-scale solar energy systems, could make our offerings less economically attractive. The price of electricity from utilities could decrease as a result of:

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

A reduction in electric utilities' rates or changes to peak hour pricing policies or rate design (such as the adoption of a fixed or flat rate) could also make our offerings less competitive with the price of electricity from the electrical grid. If the cost of energy available from electric utilities or other providers were to decrease relative to solar energy generated from residential solar energy systems or if similar events impacting the economics of our offerings were to occur, we may have difficulty attracting new customers or existing customers may default or seek to terminate, cancel or otherwise avoid the obligations under their solar service agreements. For example, large utilities in California have started transitioning customers to time-of-use rates and also have adopted a shift in the peak period for time-of-use rates to later in the day. Unless grandfathered under a different rate, residential customers with solar energy systems are required to take service under time-of-use rates with the later

peak period. Moving utility customers to time-of-use rates or the shift in the timing of peak rates for utility-generated electricity to include times of day when solar energy generation is less efficient or non-operable could also make our offerings less competitive. Time-of-use rates could also result in higher costs for our customers whose electricity requirements are not fully met by our offerings during peak periods.

Additionally, the price of electricity from utilities may grow less quickly than the escalator feature in certain of our solar service agreements, which could also make our solar energy systems less competitive with the price of electricity from the electrical grid and result in a material adverse effect on our business, financial condition and results of operations.

Our growth is dependent on our dealer network and our failure to retain or replace existing dealers or to grow our dealer network could adversely impact our business.

Our dealer network is an integral component of our business strategy and serves as the means by which we are able to originate solar service agreements and related solar energy systems and energy storage systems in existing and prospective markets. Poor performance by our dealers in originating solar service agreements could have a material adverse effect on our business, financial condition and results of operations. We have in the past had disputes and litigation with certain of our dealers over their performance.

As we grow, particularly in new jurisdictions, we will need to expand our dealer network. We are subject to significant competition for the recruitment and retention of dealers from our competitors and we may not be able to recruit new or replacement dealers in the future. We compete for our dealers with other solar service providers primarily based on the amount and timing of payments for originating solar service agreements, financial ability and our suite of technology tools.

Most of our dealers are not restricted in their ability to work with our competitors and are not obligated to continue working with us. In the past, some of our dealers have chosen to work with competitors of ours or terminated their relationships with us and dealers may reduce or terminate their work with us in the future. The departure of a significant number of our dealers for any reason, or the failure to replace departing dealers in the event of such departures, could reduce our potential origination opportunities and could have a material adverse effect on our business, financial condition and results of operations. As we develop and expand our Sunnova Protect services, dealers may view us as a competitor and choose to end their relationship with us.

Additionally, dependence on any one dealer or small group of dealers further concentrates our exposure to risks related to termination of the dealer arrangement, poor service provided by such dealer, the deterioration in financial condition of the dealer and other risks inherent in such a relationship. For the years ended December 31, 2020, 2019 and 2018, Trinity accounted for approximately 28%, 41% and 52% of our net originations for such periods, respectively. Although we have entered into a four-year exclusivity agreement with Trinity, pursuant to which Trinity may only originate solar service agreements for us, there are various exceptions to this obligation. For a discussion of exclusivity arrangements with certain of our dealers, see "*Business—Our Relationships with Our Dealers*".

If we or our dealers fail to hire and retain a sufficient number of employees and service providers in key functions, our growth and our ability to timely complete customer projects and successfully manage customer accounts would be constrained.

To support our growth, we and our dealers need to hire, train, deploy, manage and retain a substantial number of skilled employees, engineers, installers, electricians and sales and project finance specialists. Competition for qualified personnel in our industry has increased substantially, particularly for skilled personnel involved in the installation of solar energy systems. We and our dealers also compete with the homebuilding and construction industries for skilled labor. These industries are cyclical and when participants in these industries seek to hire additional workers, it puts upward pressure on our and our dealers' labor costs. Companies with whom our dealers compete to hire installers may offer compensation or incentive plans that certain installers may view as more favorable. As a result, our dealers may be unable to attract or retain qualified and skilled installation personnel. The further unionization of our industry's labor force or the homebuilding and construction industries' labor forces, either in response to the COVID-19 pandemic or otherwise, could also increase our dealers' labor costs. Shortages of skilled labor could significantly delay a project or otherwise increase our dealers' costs. Further, we need to continue to increase the training of our customer service team to provide high-end account management and service to homeowners before, during and following the point of installation of our solar energy systems. Identifying and recruiting qualified personnel and training them requires significant time, expense and attention. It can take several months before a new customer service team member is fully trained and productive at the standards we have established. If we are unable to hire, develop and retain talented customer service or other personnel, we may not be able to grow our business.

We need to obtain substantial additional financing arrangements to provide working capital and growth capital and if financing is not available to us on acceptable terms when needed, our ability to continue to grow our business would be materially adversely impacted.

Distributed residential solar power is a capital-intensive business that relies heavily on the availability of debt and equity financing sources to fund solar energy system purchase, design, engineering and other capital expenditures. From our inception through December 31, 2020, we have raised more than $6.7 billion in total capital commitments from equity, debt and tax equity investors.

Our future success depends in part on our ability to raise capital from third-party investors and commercial sources, such as banks and other lenders, on competitive terms to help finance the deployment of our solar energy systems. We seek to minimize our cost of capital in order to improve profitability and maintain the price competitiveness of the electricity produced by, the payments for and the cost of our solar energy systems. We rely on access to capital, including through tax equity financing and indebtedness in the form of debt facilities and asset-backed securities, to cover the costs related to bringing our solar energy systems and energy storage systems in service, although our customers ultimately bear responsibility for those costs pursuant to our solar service agreements.

To meet the capital needs of our growing business, we will need to obtain additional debt or equity financing from current and new investors. If any of our current debt or equity investors decide not to invest in us in the future for any reason, or decide to invest at levels inadequate to support our anticipated needs or materially change the terms under which they are willing to provide future financing, we will need to identify new investors and financial institutions to provide financing and negotiate new financing terms. In addition, our ability to obtain additional financing through the asset-backed securities market or other secured debt markets is subject to our having sufficient assets eligible for securitization as well as our ability to obtain appropriate credit ratings. If we are unable to raise additional capital in a timely manner, our ability to meet our capital needs and fund future growth may be limited.

Delays in obtaining financing could cause delays in expansion in existing markets or entering into new markets and hiring additional personnel. Any future delays in capital raising could similarly cause us to delay deployment of a substantial number of solar energy systems for which we have signed solar service agreements with customers. Our future ability to obtain additional financing depends on banks' and other financing sources' continued confidence in our business model and the renewable energy industry as a whole. It could also be impacted by the liquidity needs of such financing sources themselves. We face intense competition from a variety of other companies, technologies and financing structures for such limited investment capital. If we are unable to continue to offer a competitive investment profile, we may lose access to these funds or they may only be available to us on terms less favorable than those received by our competitors. For example, if we experience higher customer default rates than we currently experience, it could be more difficult or costly to attract future financing. Any inability to secure financing could lead us to cancel planned installations, impair our ability to accept new customers or increase our borrowing costs, any of which could have a material adverse effect on our business, financial condition and results of operations.

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

Historically, there have been a limited number of investors that generate sufficient profits and possess the requisite financial sophistication to benefit from the tax benefits our tax equity vehicles provide, and a lack of depth in this market may limit our ability to complete such tax equity financing. Potential investors seeking tax-advantaged financing must remain satisfied the structures we offer qualify for the tax benefits associated with solar energy systems available to these investors, which depends both on the investors' assessment of tax law and the absence of any unfavorable interpretations of that law. Changes in existing law and interpretations by the IRS and the courts could reduce the willingness of tax equity investors to invest in tax equity vehicles associated with these solar energy system investments or cause these investors to require a larger allocation of customer payments. We are not certain this type of financing will continue to be available to us as the legal and regulatory landscape may shift in a manner that reduces or eliminates the attractiveness of such financing opportunities. For example, a step down of Section 48(a) ITCs is scheduled to occur in 2023. Additionally, we may be unable to identify investors interested in engaging in this type of financing with us. As of December 31, 2020, we have formed eleven tax equity vehicles to which investors such as banks and other large financial investors have committed to invest approximately $789.5 million. The undrawn committed capital for these tax equity vehicles as of December 31, 2020 is approximately $135.8 million. We plan to continue to form new tax equity vehicles as long as existing tax law and regulations make such financing attractive. See "*—Risks Related to Regulations—Our business currently depends in part on the availability of rebates, tax credits and other financial incentives. The expiration, elimination or reduction of these rebates, credits or incentives or our ability to monetize them could adversely impact our business*".

The contractual terms in certain of our tax equity vehicle documents impose conditions on our ability to draw on financing commitments from the tax equity investors, including if an event occurs that could reasonably be expected to have a material adverse effect on the tax equity vehicle or on us. The terms and conditions of our tax equity vehicles can vary and may require us to alter our products, services or product mix. If we do not satisfy such conditions due to events related to our business or a specific tax equity vehicle or developments in our industry or otherwise, and as a result we are unable to draw on existing commitments, it could have a material adverse effect on our business, financial condition, results of operations and liquidity. In addition to our inability to draw on the investors' commitments, we may incur financial penalties for non-performance, including delays in the installation process and interconnection to the power grid of solar energy systems and other factors. Based on the terms of the tax equity vehicle agreements, we will either reimburse a portion of the tax equity investor's capital or pay the tax equity investor a non-performance fee.

Under the terms of certain of our tax equity vehicles, we may be required to make payments to the tax equity investors if certain tax benefits allocated to such tax equity investors are not realized as expected. Our financial condition may be adversely impacted if a tax equity vehicle is required to make any tax-related payments.

Our tax equity vehicles require that, prior to a date that is at least five years after the last project was placed in service, the tax equity investor receives substantially all the non-cash value attributable to the solar energy systems; however, in all but one of our current funds we receive a majority of the cash distributions. In the event the tax equity investor has tax liability as a result of its investment and the cash distributions payable to the tax equity investor are not sufficient to pay such tax liability, the amount of distributions payable to us will be reduced. The amounts of potential tax liability (and the potential for a reduced distribution to us) depend on the tax benefits that accrue to such investors from the tax equity vehicles' activities and may be impacted by changes in tax law.

Additionally, we may have payment obligations to our tax equity investors under indemnity obligations contained in those financings. See "*—Risks Related to Taxation—If the IRS makes a determination that the fair market value of our solar energy systems is materially lower than what we have reported in our tax equity vehicles' tax returns, we may have to pay significant amounts to our tax equity vehicles, our tax equity investors and/or the U.S. government. Such determinations could have a material adverse effect on our business and financial condition*" and "*—Risks Related to Taxation—If our solar energy systems either cease to be qualifying property or undergo certain changes in ownership within five years of the applicable placed in service date, we may have to pay significant amounts to our tax equity vehicles, our tax equity investors and/or the U.S. government. Such recapture could have a material adverse effect on our business and financial condition*".

Due to uncertainties associated with estimating the timing and amounts of cash distributions and allocations of tax benefits to such investors, we cannot determine the potential impact on our cash flows under current or future arrangements. Any significant reductions in the cash we expect to receive from these structures could adversely affect our financial condition.

We enter into securitization structures, warehouse financings and other debt financings that may limit our ability to access the cash of our subsidiaries and include acceleration events that, if triggered, could adversely impact our financial condition.

Since April 2017, we have pooled and transferred eligible solar energy systems and the related asset receivables into seven special purpose entities, which sold solar asset-backed notes and solar loan-backed notes to institutional investors, the net proceeds of which were distributed to us. We intend to monetize additional solar energy systems in the future through contributions to new special purposes entities for cash. There is a risk the institutional investors that have purchased the notes issued by these special purpose entities will be unwilling to make further investments in our solar energy systems at attractive prices. Although the creditors of these special purpose entities have no recourse to our other assets except as expressly set forth in the terms of the notes, the special purpose entities are typically required to maintain a liquidity reserve account, a reserve account for equipment replacements, as well as, in certain cases, reserve accounts to finance purchase option/withdrawal right exercises, storage system replacement or payment of liquidated damages for the benefit of the lenders under the applicable series of notes, each of which are funded from initial deposits or cash flows to the levels specified therein.

The securitization structures, warehouse financings and other debt financings often include certain other features designed to protect investors. The primary feature relates to the availability and adequacy of cash flows in the pool of assets to meet contractual requirements, the insufficiency of which triggers an early repayment of the indebtedness. We refer to this as "early amortization", which may be based on, among other things, a debt service coverage ratio falling or remaining below certain levels. In the event of an early amortization, the notes issuer would be required to repay the affected indebtedness using available collections received from the asset pool. However, the period of ultimate payment would be determined based on the amount and timing of collections received and, in limited circumstances, early amortization may be cured prior to full

repayment. An early amortization event would impair our liquidity and may require us to utilize other available contingent liquidity or rely on alternative funding sources, which may not be available at the time. Certain of the securitizations, warehouse financings and other debt financings also contain a "cash trap" feature, which requires excess cash flow to be held in an account based on, among other things, a debt service coverage ratio falling or remaining below certain levels. If the cash trap conditions are not cured within a specified period, then the cash in the cash trap account must be applied to repay the indebtedness. If the cash trap conditions are timely cured, the cash is either released back to the borrower or used to repay the indebtedness at the borrower's option. The indentures of our securitizations also typically contain customary events of default for solar securitizations that may entitle the noteholders to take various actions, including the acceleration of amounts due and foreclosure on the issuer's assets. Any significant payments we may be required to make as a result of these arrangements could adversely affect our financial condition. See "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Liquidity and Capital Resources—Financing Arrangements*".

Servicing our existing debt requires a significant amount of cash. We may not have sufficient cash flow from our business to timely pay our interest and principal obligations and may be forced to take other actions to satisfy our payment obligations.

As of December 31, 2020, our total indebtedness was approximately $2.0 billion and the available borrowing capacity under our credit facilities was $402.4 million. Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not generate cash flow from operations sufficient to service our debt and make necessary capital expenditures to operate our business. If we are unable to generate such cash flow, we may be required to adopt one or more alternatives, such as slowing or ceasing the origination of new solar service agreements, selling assets, restructuring debt or obtaining additional debt and equity capital on terms that may be onerous or highly dilutive. Our securitizations are structured in that cash flows generated by the pool of solar energy systems, energy storage systems and related solar service agreements are initially used to repay outstanding principal amounts based on the priority of payments in the agreement. However, should these cash flows decrease below applicable thresholds, all excess cash flows from such asset pool must be applied to pay down the related indebtedness, which would reduce the cash available to otherwise fund our business. Our ability to timely repay or otherwise refinance our indebtedness will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of these activities or engage in these activities on desirable terms, which could result in a default on our debt obligations.

Furthermore, we and our subsidiaries expect to incur additional debt in the future, subject to the restrictions contained in our debt instruments. Increases in our existing debt obligations would further heighten the debt related risk discussed above. In addition, we may not be able to enter into new debt instruments on acceptable terms or at all. If we were unable to satisfy financial covenants and other terms under existing or new instruments, or obtain waivers or forbearance from our lenders, or if we were unable to obtain refinancing or new financings for our working capital, equipment and other needs on acceptable terms if and when needed, our business would be adversely affected.

We are exposed to the credit risk of our customers.

Our customers purchase solar energy or lease solar energy systems from us pursuant to one of two types of long-term contracts: a PPA or a lease. The PPA and lease terms are typically for 25 years. In addition, under our loan agreements the customer finances the purchase of a solar energy system and we agree to operate and maintain the solar energy system throughout the 25-year term of the agreement. Our solar service agreements require the customer to make monthly payments to us throughout the term of the contract, unless prepaid. Because we have long-term, contractual relationships with our customers, we are subject to the credit risk of our customers and screen our customers based upon their credit rating in an attempt to mitigate the risk of customer default. As of December 31, 2020, the average FICO® score of our customers was 740 at the time of signing the solar service agreement. The accuracy of independent third-party information provided to the credit reporting agency cannot be verified. A FICO® score purports only to be a measurement of the relative degree of risk a borrower represents to a lender, i.e., a borrower with a higher score may be less likely to default in payment than a borrower with a lower score.

As of December 31, 2020, approximately 1.0% of our customers were in default under their solar service agreements. However, as we grow our business, the risk of customer defaults may increase as credit scores are dynamic and may deteriorate over a 25-year period. During an economic downturn, the risk of customer defaults may increase. In addition, our customers may assign their solar service agreements to other customers who have lower credit scores or we may enter into new solar service agreements in the future with customers who have lower credit scores than our current customers. In addition, future developments, including competition from other renewables, could decrease the attractiveness of our current contracts. Although our solar service agreements grant us the ability to terminate the agreement with the customer and repossess the

defaulting customers' solar energy system in certain circumstances, enforcement of these rights under the solar service agreement may be difficult, expensive and time-consuming.

Restrictive covenants in certain of our debt agreements could limit our growth and our ability to finance our operations, fund our capital needs, respond to changing conditions and engage in other business activities that may be in our best interests.

Our debt agreements impose operating and financial restrictions on us. These restrictions limit our ability and that of our subsidiaries to, among other things:

- incur additional indebtedness;
- make investments or loans;
- create liens;
- consummate mergers and similar fundamental changes;
- make restricted payments;
- make investments in unrestricted subsidiaries;
- enter into transactions with affiliates; and
- use the proceeds of asset sales.

We may be prevented from taking advantage of business opportunities that arise because of the limitations imposed on us by the restrictive covenants under certain of our debt agreements. The restrictions contained in the covenants could:

- limit our ability to plan for or react to market conditions, to meet capital needs or otherwise to restrict our activities or business plan; and
- adversely affect our ability to finance our operations, enter into acquisitions or divestitures to engage in other business activities that would be in our interest.

A breach of any of these covenants or our inability to comply with the required financial ratios or financial condition tests could result in a default under our debt agreements that, if not cured or waived, could result in acceleration of all indebtedness outstanding thereunder and cross-default rights under our other debt. In addition, in the event of an event of default under one of the credit facilities, the affected lenders could foreclose on the collateral securing such credit facility and require repayment of all borrowings outstanding thereunder. If the amounts outstanding under the credit facilities or any of our other indebtedness were to be accelerated, our assets may not be sufficient to repay in full the amounts owed to the lenders or to our other debt holders.

Rising interest rates may adversely impact our business.

Rising interest rates will increase our cost of capital. Our future success depends in part on our ability to raise capital from investors and obtain secured lending to help finance the deployment of our solar service agreements. As a result, rising interest rates may have an adverse impact on our ability to offer attractive pricing on our solar service agreements to our customers.

The majority of our cash flows to date have been from solar service agreements monetized under various tax equity fund structures and secured lending arrangements. One of the components of this monetization is the present value of the payment streams from customers who enter into these long-term solar service agreements. If the rate of return required by capital providers, including debt providers, rises as a result of a rise in interest rates, it will reduce the present value of the customer payment stream and consequently reduce the total value derived from this type of monetization. Any measures we could take to mitigate the impact of rising interest rates on our ability to secure third-party financing could ultimately have an adverse impact on the value proposition we offer our customers or our profitability.

The phase-out of the London Interbank Offered Rate ("LIBOR") may adversely affect a portion of our outstanding debt.

In July 2017, the United Kingdom's Financial Conduct Authority, which regulates LIBOR, announced that it intends to phase out LIBOR by the end of 2021. In November 2020, ICE Benchmark Administration, the administrator of LIBOR, with the support of the United States Federal Reserve and the United Kingdom's Financial Conduct Authority, announced plans to consult on ceasing publication of USD LIBOR on December 31, 2021 for only the one week and two month USD LIBOR tenors, and on June 30, 2023 for all other USD LIBOR tenors. While this announcement extends the transition period to June 2023, the United States Federal Reserve concurrently issued a statement advising banks to stop new USD LIBOR issuances by the end of 2021. In light of these recent announcements, the future of LIBOR at this time is uncertain and any changes in the methods by which LIBOR is determined or regulatory activity related to LIBOR's phaseout could cause LIBOR to perform

differently than in the past or cease to exist. Changes in the method of determining LIBOR, or the replacement of LIBOR with an alternative floating borrowing rate, may adversely affect our borrowing costs. Certain of our debt instruments have interest rates that are LIBOR based and will not have matured prior to the phase-out of LIBOR. We cannot predict the effect of the potential changes to LIBOR or the establishment and use of alternative floating borrowing rates on the portion of our outstanding debt that is LIBOR based. Challenges in changing to a different borrowing rate may result in less favorable pricing on certain of our debt instruments and could have an adverse effect on our financial results and cash flows.

Our business has benefited from the declining cost of solar energy system components and our business may be harmed to the extent the cost of such components stabilize or increase in the future.

Our business has benefited from the declining cost of solar energy system components and to the extent such costs stabilize, decline at a slower rate or increase, our future growth rate may be negatively impacted. The declining cost of solar energy system components and the raw materials necessary to manufacture them has been a key driver in the price of solar energy systems we own, the prices charged for electricity and customer adoption of solar energy. Solar energy system component and raw material prices may not continue to decline at the same rate as they have over the past several years or at all. In addition, growth in the solar industry and the resulting increase in demand for solar energy system components and the raw materials necessary to manufacture them may also put upward pressure on prices. An increase of solar energy system components and raw materials prices could slow our growth and cause our business and results of operations to suffer. Further, the cost of solar energy system components and raw materials has increased and could increase in the future due to tariff penalties, duties, the loss of or changes in economic governmental incentives or other factors. See "*—Increases in the cost of our solar energy systems due to tariffs imposed by the U.S. government could have a material adverse effect on our business, financial condition and results of operations*".

We do not directly control certain costs related to our business, which could put us at a disadvantage relative to companies who have a vertically integrated business model.

We do not have direct control over the costs our suppliers charge for the components of our solar energy systems and energy storage systems or the costs to our dealers of installing and marketing such products. This may lead us to charge higher prices for our solar energy systems and energy storage systems than our competitors with a vertically integrated business model, causing us to be unable to maintain or increase market share.

We may be unsuccessful in introducing new service and product offerings, including our distributed energy storage services and energy storage management systems.

We intend to introduce new offerings of services and products to both new and existing customers in the future, including home automation products and additional home technology solutions. We may be unsuccessful in significantly broadening our customer base through the addition of these services and products within our current markets or in new markets we may enter. Additionally, we may not be successful in generating substantial revenue from any additional services and products we may introduce in the future and may decline to initiate new product and service offerings.

We face competition from centralized electric utilities, retail electric providers, independent power producers and renewable energy companies.

The solar energy and renewable energy industries are both highly competitive and continually evolving as participants strive to distinguish themselves within their markets and compete with large centralized electric utilities. We believe our primary competitors are the centralized electric utilities that supply electricity to our potential customers. We compete with these centralized electric utilities primarily based on price (cents per kWh), predictability of future prices (by providing pre-determined annual price escalations) and the ease by which customers can switch to electricity generated by our solar energy systems. We may also compete based on other value-added benefits, such as reliability and carbon-friendly power. If we cannot offer compelling value to our customers based on these factors, our business may not grow.

Centralized electric utilities generally have substantially greater financial, technical, operational and other resources than we do. As a result, these competitors may be able to devote more resources to the research, development, promotion and sale of their products or services or respond more quickly to evolving industry standards and changes in market conditions than we can. Centralized electric utilities could also offer other value-added products or services that could help them to compete with us even if the cost of electricity they offer is higher than ours. In addition, a majority of utilities' sources of electricity is non-solar, which may allow utilities to sell electricity more cheaply than electricity generated by our solar energy systems. Centralized electric utilities could also offer customers the option of purchasing electricity obtained from renewable energy resources, including solar, which would compete with our offerings.

We also compete with retail electric providers and independent power producers not regulated like centralized electric utilities but which have access to the centralized utilities' electricity transmission and distribution infrastructure pursuant to state, territorial and local pro-competition and consumer choice policies. These retail electric providers and independent power producers are able to offer customers electricity supply-only solutions that are competitive with our solar energy system options on both price and usage of renewable energy technology while avoiding the long-term agreements and physical installations our current business model requires. This may limit our ability to acquire new customers, particularly those who wish to avoid long-term agreements or have an aesthetic or other objection to putting solar panels on their roofs.

We also compete with solar companies with vertically integrated business models, including sales, financing, engineering, manufacturing, installation, maintenance and monitoring services. If the integrated approach of our competitors is successful, it may limit our ability to originate solar energy systems. Many of our vertically integrated competitors are larger than we are. As a result, these competitors may be able to devote more resources to the research, development, promotion and sale of their products or services or respond more quickly to evolving industry standards and changes in market conditions than we can. Solar companies with vertically integrated business models could also offer other value-added products or services that could help them to compete with us. Larger competitors may also be able to access financing at a lower cost of capital than we are able to obtain.

In addition, we compete with other solar companies who sell or finance products directly to consumers, inclusive of programs like Property-Assessed Clean Energy financing programs established by local governments. For example, we face competition from solar installation businesses that seek financing from external parties or utilize competitive loan products or state and local programs.

We also compete with solar companies with business models similar to our own, some of which are marketed to potential customers by our dealers. Some of these competitors specialize in the distributed residential solar energy market and some may provide energy at lower costs than we do. Some of our competitors offer or may offer similar services and products as we do, such as leases, PPAs and direct outright sales of and consumer loan products for solar energy systems. Many of our competitors also have significant brand name recognition and have extensive knowledge of our target markets.

We also compete with solar companies that offer community solar products and utility companies that provide renewable power purchase programs. Some customers might choose to subscribe to a community solar project or renewable subscriber programs instead of installing a solar energy system on their home, which could affect our sales. Additionally, some utility companies (and some utility-like entities, such as community choice aggregators in California) have generation portfolios that are increasingly renewable in nature. In California, for example, due to recent legislation, utility companies and community choice aggregators in that state are required to have generation portfolios comprised of 60% renewable energy by 2030 and state regulators are planning for utility companies and community choice aggregators to sell 100% greenhouse gas free electricity to retail customers by 2045. As utility companies offer increasingly renewable portfolios to retail customers, those customers might be less inclined to install a solar energy system at their home, which could adversely affect our growth.

We have historically provided our services only to residential customers and do not currently intend to expand to commercial, industrial or governmental customers. We compete with companies who sell solar energy systems and services in the commercial, industrial and government markets, in addition to the residential market, in the U.S. and foreign markets. There is intense competition in the residential solar energy sector in the markets in which we operate. As new entrants continue to enter into these markets, we may be unable to grow or maintain our operations and we may be unable to compete with companies that earn revenue in both the residential market and non-residential markets. Further, because we provide our services exclusively to residential customers, we have a less diverse market presence and are more exposed to potential adverse changes in the residential market than our competitors that sell solar energy systems and services in the commercial, industrial, government and utility markets.

As the solar industry grows and evolves, we will also face new competitors and technologies who are not currently in the market. Our industry is characterized by low technological barriers to entry and well-capitalized companies, including utilities and integrated energy companies, could choose to enter the market and compete with us. Our failure to adapt to changing market conditions and to compete successfully with existing or new competitors will limit our growth and will have a material adverse effect on our business, financial condition and results of operations.

Developments in technology or improvements in distributed solar energy generation and related technologies or components may materially adversely affect demand for our offerings.

Significant developments in technology, such as advances in distributed solar power generation, energy storage solutions such as batteries, energy storage management systems, the widespread use or adoption of fuel cells for residential or commercial properties or improvements in other forms of distributed or centralized power production may materially and adversely affect demand for our offerings and otherwise affect our business. Future technological advancements may result in reduced prices to consumers or more efficient solar energy systems than those available today, either of which may result in current customer dissatisfaction. We may not be able to adopt these new technologies as quickly as our competitors or on a cost-effective basis.

Due to the length of our solar service agreements, the solar energy system deployed on a customer's residence may be outdated prior to the expiration of the term of the related solar service agreement, reducing the likelihood of renewal of our solar service agreement at the end of the applicable term and possibly increasing the occurrence of customers seeking to terminate or cancel their solar service agreements or defaults. If current customers become dissatisfied with the price they pay for their solar energy system under our solar service agreements relative to prices that may be available in the future or if customers become dissatisfied by the output generated by their solar energy systems relative to future solar energy system production capabilities, or both, this may lead to customers seeking to terminate or cancel their solar service agreements or higher rates of customer default and have an adverse effect on our business, financial condition and results of operations. Additionally, recent technological advancements may impact our business in ways we do not currently anticipate. Any failure by us to adopt or have access to new or enhanced technologies or processes, or to react to changes in existing technologies, could result in product obsolescence or the loss of competitiveness of and decreased consumer interest in our solar energy services, which could have a material adverse effect on our business, financial condition and results of operations.

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

We depreciate the costs of our solar energy systems over their estimated useful life of 35 years. At the end of the initial term (typically 10, 15 or 25 years) of the lease or PPA, customers may choose to purchase their solar energy systems, ask us to remove the solar energy system at our cost or renew their lease or PPA. Homeowners may choose to not renew or purchase for any reason, such as pricing, decreased energy consumption, relocation of residence, switching to a competitor product or technological obsolescence of the solar energy system. We are also contractually obligated to remove, store and reinstall the solar energy systems, typically for a nominal fee, if customers need to replace or repair their roofs. Furthermore, it is difficult to predict how future environmental regulations may affect the costs associated with the removal, disposal or recycling of our solar energy systems. If the residual value of the solar energy systems is less than we expect at the end of the customer contract, after giving effect to any associated removal and redeployment costs, we may be required to accelerate the recognition of all or some of the remaining unamortized costs. This could materially impair our future results of operations.

We and our dealers depend on a limited number of suppliers of solar energy system components and technologies to adequately meet demand for our solar energy systems. Due to the limited number of suppliers in our industry, the acquisition of any of these suppliers by a competitor or any shortage, delay, price change, imposition of tariffs or duties or other limitation in our or our dealers' ability to obtain components or technologies we use could result in sales and installation delays, cancelations and loss of customers.

We rely on our dealers to install solar energy systems and energy storage systems, each of whom has direct supplier arrangements. Our dealers purchase solar panels, inverters, energy storage systems and other system components and instruments from a limited number of suppliers, approved by us, making us susceptible to quality issues, shortages and price changes. For the year ended December 31, 2020, Hanwha Q-Cells and Longi Solar supplied approximately 49% and 20%, respectively, of our solar photovoltaic panels installed and no other supplier represented more than 10% of our solar photovoltaic panels installed. For the year ended December 31, 2019, Hanwha Q-Cells and Yingli Green Energy supplied approximately 50% and 17%, respectively, of our solar photovoltaic panels installed and no other supplier represented more than 10% of our solar photovoltaic panels installed. Yingli Green Energy is currently undergoing a restructuring of its debt. There is no guarantee Yingli Green Energy will honor its existing warranty coverage or will continue to supply us with solar photovoltaic panels in the future following the completion of this restructuring. For the year ended December 31, 2020, Enphase Energy, Inc. and SolarEdge Technologies Inc. accounted for approximately 73% and 27%, respectively, of the inverters used in our solar energy system installations. For the year ended December 31, 2019, Enphase Energy, Inc. and SolarEdge Technologies Inc. accounted for approximately 58% and 42%, respectively, of the inverters used in our solar energy system installations. For the year ended December 31, 2020, Tesla, Inc. and Enphase Energy, Inc. accounted for approximately 82% and 18%, respectively, of our energy storage system purchases. For the year ended December 31, 2019, Tesla, Inc.

accounted for 100% of our energy storage system purchases. If one or more of the suppliers we and our dealers rely upon to meet anticipated demand ceases or reduces production due to its financial condition, acquisition by a competitor or otherwise, is unable to increase production as industry demand increases or is otherwise unable to allocate sufficient production to us and our dealers, it may be difficult to quickly identify alternative suppliers or to qualify alternative products on commercially reasonable terms and our ability and the ability of our dealers to satisfy this demand may be adversely affected. There are a limited number of suppliers of solar energy system components, instruments and technologies. While we believe there are other sources of supply for these products available, a dealer's need to transition to a new supplier may result in additional costs and delays in originating solar service agreements and deploying our related solar energy systems or energy storage systems, which in turn may result in additional costs and delays in our acquisition of such solar service agreements and related solar energy systems and energy storage systems. These issues could have a material adverse effect on our business, financial condition and results of operations.

There have also been periods of industry-wide shortages of key components and instruments, including batteries and inverters, in times of rapid industry growth. The manufacturing infrastructure for some of these components has a long lead-time, requires significant capital investment and relies on the continued availability of key commodity materials, potentially resulting in an inability to meet demand for these components. The solar industry is currently experiencing rapid growth and, as a result, shortages of key components or instruments, including solar panels, may be more likely to occur, which in turn may result in price increases for such components. Even if industry-wide shortages do not occur, suppliers may decide to allocate key components or instruments with high demand or insufficient production capacity to more profitable customers, customers with long-term supply agreements or customers other than us, our dealers or other third parties from whom we may originate solar energy systems and our ability to originate solar service agreements and related solar energy systems and energy storage systems may be reduced as a result.

Our supply chain and operations (or those of our dealers) could be subject to natural disasters and other events beyond our control, such as earthquakes, wildfires, flooding, hurricanes, tsunamis, typhoons, volcanic eruptions, droughts, tornadoes, power outages or other natural disasters, the effects of climate change and related extreme weather, public health issues and pandemics, war, terrorism, government restrictions or limitations on trade, and geo-political unrest and uncertainties. Human rights and forced labor issues in foreign countries and the U.S. government's response to them could disrupt our supply chain and our operations could be adversely impacted. For example, proposed legislation in both the U.S. House of Representatives and the Senate seeks to ban the import of all goods from China's Xinjiang Uygur autonomous region, a major producer of polysilicon used by manufacturers of solar panels, over allegations of widespread, state-backed forced labor in the region. Additionally, if the impacts of the coronavirus outbreak, including the accompanying travel restrictions and business closures, continue for an extended period of time or worsen, the supply and pricing of our inverters and other goods and therefore the ability of our dealers to install new solar energy systems could be adversely affected. The extent of the impact of the coronavirus on our business and operations will depend on, among other factors, the duration and severity of the outbreak, travel restrictions and business closures imposed in China or other countries, the ability of our suppliers to increase their production of goods in jurisdictions other than China, our ability to contract for supply from other sources on acceptable terms and the willingness of our lenders to permit us to switch suppliers.

Increases in the cost of our solar energy systems due to tariffs imposed by the U.S. government could have a material adverse effect on our business, financial condition and results of operations.

China is a major producer of solar cells and other solar products. Certain solar cells, modules, laminates and panels from China are subject to various U.S. antidumping and countervailing duty rates, depending on the exporter supplying the product, imposed by the U.S. government as a result of determinations that the U.S. was materially injured as a result of such imports being sold at less than fair value and subsidized by the Chinese government. While historically our dealers have purchased a number of these products from manufacturers in China, currently such purchases are immaterial and sourced from manufacturers in other jurisdictions. If these alternative sources are no longer available on competitive terms in the future, we and our dealers may seek to purchase these products from manufacturers in China. In addition, tariffs on solar cells, modules and inverters in China may put upwards pressure on prices of these products in other jurisdictions from which our dealers currently purchase equipment, which could reduce our ability to offer competitive pricing to potential customers.

The antidumping and countervailing duties discussed above are subject to annual review and may be increased or decreased. Furthermore, under Section 301 of the Trade Act of 1974, the U.S. Trade Representative imposed tariffs on $200 billion worth of imports from China, including inverters and certain AC modules and non-lithium-ion batteries, effective September 24, 2018. In May 2019, the tariffs were increased from 10% to 25% and may be raised by the U.S. Trade Representative in the future. Since these tariffs impact the purchase price of the solar products, these tariffs raise the cost associated with purchasing these solar products from China and reduce the competitive pressure on providers of solar cells not subject to these tariffs.

In addition, in January 2018, the President of the U.S. announced, effective February 7, 2018, the imposition of a global 30% ad valorem tariff, with certain qualifications and exceptions, on certain imported solar cells and modules, which steps down by five percentage points each year and then phases out in 2022. Since such actions increase the cost of imported solar products, to the extent we or our dealers use imported solar products or domestic producers are able to raise their prices for their solar products, the overall cost of the solar energy systems will increase, which could reduce our ability to offer competitive pricing in certain markets.

We cannot predict what additional actions the U.S. may adopt with respect to tariffs or other trade regulations or what actions may be taken by other countries in retaliation for such measures. If additional measures are imposed or other negotiated outcomes occur, our ability or the ability of our dealers to purchase these products on competitive terms or to access specialized technologies from other countries could be further limited, which could adversely affect our business, financial condition and results of operations.

Warranties provided by the manufacturers of equipment for our assets and maintenance obligations of our dealers may be limited by the ability of a supplier and/or dealer to satisfy its warranty or performance obligations or by the expiration of applicable time or liability limits, which could reduce or void the warranty protections or may be limited in scope or magnitude of liabilities and thus, the warranties and maintenance obligations may be inadequate to protect us.

We agree to maintain the solar energy systems and energy storage systems installed on our customers' homes during the length of the term of our solar service agreements, which is typically 10, 15 or 25 years. We are exposed to any liabilities arising from the solar energy systems' failure to operate properly and are generally under an obligation to ensure each solar energy system remains in good condition during the term of the agreement. We are the beneficiary of the panel manufacturers' warranty coverage, typically of 10 years for material and workmanship and 25 years for performance, the inverter manufacturers' warranty coverage, typically from 10 to 25 years and the energy storage manufacturers' warranty coverage, typically of 10 years. Furthermore, our dealers provide warranties as to their workmanship. In the event that such warranty providers or dealers file for bankruptcy, cease operations or otherwise become unable or unwilling to fulfill their warranty or maintenance obligations, we may not be adequately protected by such warranties or maintenance obligations. Even if such warranty or maintenance providers or dealers fulfill their obligations, the warranty or maintenance obligations may not be sufficient to protect us against all of our losses. In addition, our warranties are of limited duration, ranging from one year, in the case of certain solar energy system and transformer warranties, to 25 years, in the case of certain panel performance warranties, after the date each equipment item is delivered or commissioned, although the useful life of our solar energy systems is 35 years. These warranties are subject to liability and other limits. If we seek warranty protection and a warranty provider is unable or unwilling to perform its warranty obligations, or if a dealer is unable or unwilling to perform its maintenance obligations, whether as a result of its financial condition or otherwise, or if the term of the warranty or maintenance obligation has expired or a liability limit has been reached, there may be a reduction or loss of protection for the affected assets, which could have a material adverse effect on our business, financial condition and results of operations.

Our failure to accurately predict future liabilities related to material quality or performance expenses could result in unexpected volatility in our financial condition. Because of the long estimated useful life of our solar energy systems, we have been required to make assumptions and apply judgments regarding a number of factors, including our anticipated rate of warranty claims and the durability, performance and reliability of our solar energy systems. We made these assumptions based on the historic performance of similar solar energy systems or on accelerated life cycle testing. Our assumptions could prove to be materially different from the actual performance of our solar energy systems, causing us to incur substantial expense to repair or replace defective solar energy systems in the future or to compensate customers for solar energy systems that do not meet their performance guarantees. Equipment defects, serial defects or operational deficiencies also would reduce our revenue from solar service agreements because the customer payments under such agreements are dependent on solar energy system production or would require us to make refunds under performance guarantees. Any widespread product failures or operating deficiencies may damage our market reputation and adversely impact our financial results. For further discussion of these potential charges and related proposals, see "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Components of Results of Operations*".

Our operating results and our ability to grow may fluctuate from quarter to quarter and year to year, which could make our future performance difficult to predict and could cause our operating results for a particular period to fall below expectations.

Our quarterly and annual operating results and our ability to grow are difficult to predict and may fluctuate significantly in the future. We have experienced seasonal and quarterly fluctuations in the past and expect to experience such fluctuations in the

future. In addition to the other risks described in this "*Risk Factors*" section, the following factors could cause our operating results to fluctuate:

- expiration or initiation of any governmental rebates or incentives;
- significant fluctuations in customer demand for our solar energy services, solar energy systems and energy storage systems;
- our dealers' ability to complete installations in a timely manner;
- our and our dealers' ability to gain interconnection permission for an installed solar energy system from the relevant utility;
- the availability, terms and costs of suitable financing;
- the amount, timing of sales and potential decreases in value of SRECs;
- our ability to continue to expand our operations and the amount and timing of expenditures related to this expansion;
- announcements by us or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital-raising activities or commitments;
- changes in our pricing policies or terms or those of our competitors, including centralized electric utilities;
- actual or anticipated developments in our competitors' businesses, technology or the competitive landscape; and
- natural disasters or other weather or meteorological conditions.

For these or other reasons, the results of any prior quarterly or annual periods should not be relied upon as indications of our future performance.

If we are unable to make acquisitions on economically acceptable terms, our future growth would be limited, and any acquisitions we may make may reduce, rather than increase, our cash flows.

We may make acquisitions of solar energy systems, energy storage systems and related businesses and joint ventures. The consummation and timing of any future acquisitions will depend upon, among other things, whether we are able to:

- identify attractive acquisition candidates;
- negotiate acceptable purchase agreements;
- obtain any required governmental or third party consents;
- obtain financing for these acquisitions on economically acceptable terms, which may be more difficult at times when the capital markets are less accessible; and
- outbid any competing bidders.

Additionally, any acquisition involves potential risks, including, among other things:

- mistaken assumptions about assets, revenues and costs of the acquired company, including synergies and potential growth;
- an inability to secure adequate customer commitments to use the acquired systems or facilities;
- an inability to successfully integrate the assets or businesses we acquire;
- coordinating geographically disparate organizations, systems and facilities;
- the assumption of unknown liabilities for which we are not indemnified or for which our indemnity is inadequate;
- mistaken assumptions about the acquired company's suppliers or dealers or other vendors;
- the diversion of management's and employees' attention from other business concerns;
- unforeseen difficulties operating in new geographic areas and business lines;
- customer or key employee losses at the acquired business; and
- poor quality assets or installation.

If we consummate any future acquisitions, our capitalization, results of operations and future growth may change significantly and our stockholders will not have the opportunity to evaluate the economic, financial and other relevant information we will consider in deciding to engage in these future acquisitions, which may not improve our results of operations or cash flow to the extent we projected.

The solar energy systems we own or may originate have a limited operating history and may not perform as we expect.

Many of the solar energy systems we currently own or may originate in the future have not commenced operations, have recently commenced operations or otherwise have a limited operating history. Of the solar energy systems we owned as of December 31, 2020, 24%, 15% and 12% were placed into service in 2020, 2019 and 2018, respectively. The ability of our solar energy systems to perform as we expect will also be subject to risks inherent in newly constructed renewable energy assets,

including breakdowns and outages, latent defects, equipment that performs below our expectations, system failures and outages. As a result, our assumptions and estimates regarding the performance of these solar energy systems are, and will be, made without the benefit of a meaningful operating history, which may impair our ability to accurately assess the potential profitability of the solar energy systems and, in turn, our results of operations, financial condition and cash flows.

The cost of maintenance or repair of solar energy systems or energy storage systems throughout the term of the associated solar service agreement or the removal of solar energy systems at the end of the term of the associated solar service agreement may be higher than projected today and adversely affect our financial performance and valuation.

If we incur repair and maintenance costs on our solar energy systems or energy storage systems after the individual component warranties have expired and if they then fail or malfunction, we will be liable for the expense of repairing these solar energy systems or energy storage systems without a chance of recovery from our suppliers. In addition, we typically bear the cost of removing the solar energy systems at the end of the term of the lease or PPA if the customer does not renew his or her agreement or elect to purchase the solar energy system at the end of its term. Furthermore, it is difficult to predict how future environmental regulations may affect the costs associated with the repair, removal, disposal or recycling of our solar energy systems. This could materially impair our future operating results.

Problems with performance of our solar energy systems may cause us to incur expenses, may lower the value of our solar energy systems and may damage our market reputation and adversely affect our business.

Our long-term leases and loan agreements contain a performance guarantee in favor of the customer. Solar service agreements with performance guarantees require us to provide a bill credit (or in limited cases, refund money) to the customer if the solar energy system fails to generate the minimum amount of electricity, as specified in the solar service agreement, in a given term, beginning with the first three year period after execution of the solar service agreement and annually thereafter. We may also suffer financial losses associated with such credit and refunds if significant performance guarantee payments are triggered. For a description of our performance guarantee obligations, see "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Components of Results of Operations—Revenue*".

We and our dealers are subject to risks associated with installation and other contingencies.

Our dealers design and install solar energy systems and energy storage systems on our behalf. Because the solar service agreement is entered into between us and the customer, we may be liable to our customers for any damage our dealers cause to our customers' homes, belongings or property during the installation of our solar energy systems and energy storage systems or otherwise.

For example, dealers may penetrate our customers' roofs during the installation process and we may incur liability for the failure to adequately weatherproof such penetrations following the completion of installation of solar energy systems. In addition, because our solar energy systems and energy storage systems are high-voltage energy systems, we may incur liability for a dealer's failure to comply with electrical standards and manufacturer recommendations. Furthermore, prior to obtaining permission to operate our solar energy systems and energy storage systems, the solar energy systems and energy storage systems must pass various inspections. Any delay in passing, or inability to pass, such inspections, would adversely affect our results of operations. Because our profit on a particular solar service agreement and related solar energy system and energy storage system, if applicable, is based in part on assumptions as to the ongoing cost of the related solar energy system and energy storage system, if applicable, cost overruns, delays or other execution issues may cause us to not achieve our expected results or cover our costs for that solar service agreement and related solar energy system and energy storage systems, if applicable.

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

It is possible our solar energy systems or energy storage systems could injure our customers or other third parties or our solar energy systems or energy storage systems could cause property damage as a result of product malfunctions, defects, improper installation, fire or other causes. Any product liability claim we face could be expensive to defend and may divert management's attention. The successful assertion of product liability claims against us could result in potentially significant monetary damages, potential increases in insurance expenses, penalties or fines, subject us to adverse publicity, damage our reputation and competitive position and adversely affect sales of solar energy systems or energy storage systems. In addition, product liability claims, injuries, defects or other problems experienced by other companies in the residential solar industry could lead to unfavorable market conditions to the industry as a whole and may have an adverse effect on our ability to expand

our portfolio of solar service agreements and related solar energy systems and energy storage systems, thus affecting our business, financial condition and results of operations.

Inflation could result in decreased value from future contractual payments and higher expenses for labor and equipment, which, in turn, could adversely impact our reputation, business, financial condition, cash flows and results of operations.

Any future increase in inflation may adversely affect our costs, including our dealers' cost of labor and equipment, and may result in a decrease in value in our future contractual payments. Many of our solar service agreements, which generally have a term of 10, 15 or 25 years, do not contain any pricing escalators. The pricing escalators we do have may not keep pace with inflation, which would result in the agreement yielding decreased value over time. These factors could adversely impact our reputation, business, financial condition, cash flows and results of operations.

We are not able to insure against all potential risks and we may become subject to higher insurance premiums.

We are exposed to numerous risks inherent in the operation of solar energy systems and energy storage systems, including equipment failure, manufacturing defects, natural disasters such as hurricanes, fires and earthquakes, terrorist attacks, sabotage, vandalism and environmental risks. Furthermore, components of our solar energy systems and energy storage systems, such as panels, inverters and batteries, could be damaged by severe weather, such as tsunamis, hurricanes, tornadoes, hailstorms or lightning. If our solar energy systems or energy storage systems are damaged in the event of a natural disaster beyond our control, losses could be outside the scope of insurance policies or exceed insurance policy limits and we could incur unforeseen costs that could harm our business and financial condition. We may also incur significant additional costs in taking actions in preparation for, or in reaction to, such events.

Our insurance policies also cover legal and contractual liabilities arising out of bodily injury, personal injury or property damage to third parties and are subject to policy limits. We also maintain coverage for physical damage to our solar energy assets.

However, such policies do not cover all potential losses and coverage is not always available in the insurance market on commercially reasonable terms. In addition, we may have disagreements with our insurers on the amount of our recoverable damages and the insurance proceeds received for any loss of, or any damage to, any of our assets may be claimed by lenders under our financing arrangements or otherwise may not be sufficient to restore the loss or damage without a negative impact on our results of operations. Furthermore, the receipt of insurance proceeds may be delayed, requiring us to use cash or incur financing costs in the interim. To the extent we experience covered losses under our insurance policies, the limit of our coverage for potential losses may be decreased or the insurance rates we have to pay increased. Furthermore, the losses insured through commercial insurance are subject to the credit risk of those insurance companies. While we believe our commercial insurance providers are currently creditworthy, we cannot assure you such insurance companies will remain so in the future.

We may not be able to maintain or obtain insurance of the type and amount we desire at reasonable rates. The insurance coverage we do obtain may contain large deductibles or fail to cover certain risks or all potential losses. In addition, our insurance policies are subject to annual review by our insurers and may not be renewed on similar or favorable terms, including coverage, deductibles or premiums, or at all. If a significant accident or event occurs for which we are not fully insured or we suffer losses due to one or more of our insurance carriers defaulting on their obligations or contesting their coverage obligations, it could have a material adverse effect on our business, financial condition and results of operations.

We typically bear the risk of loss and the cost of maintenance, repair and removal on solar energy systems that are owned by our subsidiaries and included in securitization and tax equity vehicles.

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

Certain of our solar energy systems are located in, and we conduct business in, Puerto Rico and weakness in the fiscal health of the government and PREPA, the damage caused by Hurricane Maria in September 2017, a series of earthquakes that affected the island in December 2019 and early 2020 and potential tax increases that may increase our cost of conducting business in Puerto Rico, create uncertainty that may adversely impact us. In addition, we are subject to administrative proceedings instituted by the Puerto Rico Energy Bureau.

Puerto Rico is a significant market for our business, representing 15% and 12% of our solar energy systems as of December 31, 2020 and 2019, respectively, and has suffered from significant economic difficulties in recent years. As a result of the continued weakness of the Puerto Rico economy, liquidity constraints and a lack of market access, the credit ratings of the Puerto Rico government's general obligation bonds and guaranteed bonds, as well as the ratings of most of the Puerto Rico public corporations, including PREPA, are non-investment grade by Moody's, S&P and Fitch Ratings.

Puerto Rico has also enacted certain measures that could increase the cost of solar energy systems. In 2015, the Puerto Rico government increased the sales and use tax from 7% to 11.5%. Although leases are currently exempt from such sales and use tax pursuant to Act No. 83-2010, the increase in sales tax is applicable to repair and maintenance services. Additionally, in October 2015, Puerto Rico enacted a 4% sales tax to previously exempt business-to-business transactions. Should our current exemption expire or additional taxes be imposed, the tax increase may impose greater costs on our future and current customers, which may hinder our future origination efforts and adversely impact our business, financial condition, results of operations and future growth. Future changes in Puerto Rico tax law could affect our tax position and adversely impact our business.

Although Puerto Rico had already suffered from economic difficulties in recent years, Hurricanes Irma and Maria in 2017, catastrophic weather events whose effects have been long enduring, earthquakes in the southwest of the island beginning in 2019 and continuing through 2020 and the COVID-19 pandemic have caused significant additional disruption to the island's electric grid and economic activity. The continued weakness of the Puerto Rico economy has strained the fiscal health of the government, which may create uncertainty that may adversely impact us. Furthermore, the future financial condition and prospects of PREPA are uncertain, which could negatively impact the availability and the reliability of Puerto Rico's electrical grid and adversely impact our operations on the island.

In 2018, the government of Puerto Rico enacted legislation that set in motion the privatization of PREPA. Said legislation governs the establishment of public-private partnerships ("P3") with respect to the concession for the distribution and transmission assets, services and facilities of PREPA, including its generation assets. In the summer of 2020, the government of Puerto Rico signed a 15-year P3 agreement with LUMA Energy, LLC to operate, maintain and modernize PREPA's electric transmission and distribution system. Moreover, in November 2020, the government announced that several companies had been qualified as part of the procurement process related to the Request for Qualifications for the management and operation of PREPA's legacy generation assets. The Request for Proposals is currently underway but the awardee has not been announced.

Legislation enacted in April 2019 requires a study of net metering to be completed within five years, which may result in revisions to the existing rules. However, no changes can be made to retail net metering for five years after the date the legislation was enacted. Meanwhile, "true" net metering will continue to apply, meaning the credit for energy exported by net metering clients will equal the value of such energy under the rate applicable to those clients and accordingly, their charges will be based on their net consumption. Customers subject to this regime would be grandfathered for a period of 20 years from the date of their net metering agreements.

Net metering customers in Puerto Rico may be impacted by transition charges and other requirements contemplated in a restructuring agreement between PREPA and its creditors, currently pending before the U.S. District Court for the District of Puerto Rico in bankruptcy-like proceedings under Title III of the Puerto Rico Oversight, Management, and Economic Stability Act ("PROMESA"). PROMESA provides PREPA with access to a workout process similar to bankruptcy. In response to the effects of the COVID-19 pandemic, however, the approval of the restructuring agreement has been stayed, and the government announced in December 2020 that it continues to conduct diligence to determine whether, among other things, the terms of the restructuring agreement should be renegotiated and the parameters for doing so.

While we do not currently contract directly with the Puerto Rico government or PREPA, continued weakness in the Puerto Rico economy or the failure of the Puerto Rico government to manage its fiscal challenges in an orderly manner could result in policy decisions we do not anticipate and may directly or indirectly adversely impact our business, financial condition and results of operations. In addition, it is unclear whether the selection of private concessionaires for PREPA's transmission and distribution system and legacy generation assets may have an impact on our business.

The Puerto Rico Energy Bureau has instituted administrative proceedings regarding customer complaints about our Puerto Rican operations, the operations of some of our dealers in Puerto Rico and certain Sunnova policies and procedures relating to contract disclosures and invoice disputes in Puerto Rico. At this time, we are unable to determine whether the Puerto Rico Energy Bureau will seek penalties against us in the future in connection with these proceedings or require a change in our practices and procedures. Based on this matter, the U.S. Better Business Bureau listed Sunnova as not accredited. We have not experienced a material impact as a result of the listing.

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

As of December 31, 2020, approximately 22%, 24% and 15% of our solar energy systems were located in New Jersey, California and Puerto Rico, respectively. In addition, we expect much of our near-term future growth to occur in these same markets, further concentrating our customer base and operational infrastructure. Accordingly, our business and results of operations are particularly susceptible to adverse economic, regulatory, political, weather and other conditions in such markets and in other markets that may become similarly concentrated. See "*—We are not able to insure against all potential risks and we may become subject to higher insurance premiums*" and "*—Certain of our solar energy systems are located in, and we conduct business in, Puerto Rico and weakness in the fiscal health of the government and PREPA, the damage caused by Hurricane Maria in September 2017, a series of earthquakes that affected the island in December 2019 and early 2020 and potential tax increases that may increase our cost of conducting business in Puerto Rico, create uncertainty that may adversely impact us. In addition, we are subject to administrative proceedings instituted by the Puerto Rico Energy Bureau*". Any of these conditions, even if only in one such market, could have a material adverse effect on our business, financial condition and results of operations. In addition, all of our current solar energy systems are located in the U.S. and its territories, which makes us particularly susceptible to adverse changes in U.S. tax laws. See "*—Risks Related to Taxation—Recent tax legislation and future changes in law could adversely affect our business*".

Dealer and marketplace confidence in our liquidity and long-term business prospects is important for building and maintaining our business.

Our financial condition, operating results and business prospects may suffer materially if we are unable to establish and maintain confidence about our liquidity and business prospects among dealers, consumers and within our industry. Our dealer network is an integral component of our business strategy and serves as the means by which we are able to rapidly and successfully expand within existing and prospective markets. Dealers and other third parties will be less likely to enter into dealer agreements with us or originate new solar service agreements if they are uncertain we will be able to make payments on time, our business will succeed or our operations will continue for many years.

Our solar energy systems and energy storage systems require ongoing maintenance and support. If we were to reduce operations, even years from now, buyers of our solar energy systems and energy storage systems from years earlier might have difficulty having us provide or arrange repairs or other services to our and their solar energy systems and energy storage systems, which remain our responsibility under the terms of our solar service agreements. As a result, consumers may be less likely to enter into solar service agreements with us if they are uncertain our business will succeed or our operations will continue for many years.

Accordingly, in order to build and maintain our business, we must maintain confidence among dealers, customers and other parties in our liquidity and long-term business prospects. We may not succeed in our efforts to build this confidence.

Damage to our brand and reputation or change or loss of use of our brand could harm our business and results of operations.

We depend significantly on our reputation for high-quality products, excellent customer service and the brand name "Sunnova" to attract new customers and grow our business. If we fail to continue to deliver our solar energy systems or energy storage systems within the planned timelines, if our offerings do not perform as anticipated or if we damage any of our customers' properties or delay or cancel projects, our brand and reputation could be significantly impaired. Future technological improvements may allow us to offer lower prices or offer new technology to new customers; however, technical limitations in our current solar energy systems and energy storage systems may prevent us from offering such lower prices or new technology to our existing customers. The inability of our current customers to benefit from technological improvements could cause our existing customers to lower the value they perceive our existing products offer and impair our brand and reputation.

In addition, given the sheer number of interactions our personnel or dealers operating on our behalf have with customers and potential customers, it is inevitable that some customers' and potential customers' interactions with our company or dealers operating on our behalf will be perceived as less than satisfactory. This has led to instances of customer complaints, some of

which have affected our digital footprint on rating websites and social media platforms. If we cannot manage our hiring and training processes to avoid or minimize these issues to the extent possible, our reputation may be harmed and our ability to attract new customers would suffer.

In addition, if we were to no longer use, lose the right to continue to use or if others use the "Sunnova" brand, we could lose recognition in the marketplace among customers, suppliers and dealers, which could affect our business, financial condition, results of operations and would require financial and other investment and management attention in new branding, which may not be as successful.

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

The energy produced and the revenue and cash receipts generated by a solar energy system depend on suitable solar, atmospheric and weather conditions, all of which are beyond our control. Our economic model and projected returns on our solar energy systems require achievement of certain production results from our systems and, in some cases, we guarantee these results to our consumers. If the solar energy systems underperform for any reason, our business could suffer. For example, the amount of revenue we recognize in a given period from our PPAs and the amount of our obligations under the performance guarantees of our solar service agreements are dependent in part on the amount of energy generated by solar energy systems under such solar service agreements. As a result, revenue derived from our standard PPAs is impacted by seasonally shorter daylight hours in winter months. In addition, the ability of our dealers to install solar energy systems and energy storage systems is impacted by weather. For example, the ability to install solar energy systems and energy storage systems during the winter months in the Northeastern U.S. is limited. Such solar, atmospheric and weather conditions can delay the timing of when solar energy systems and energy storage systems can be installed and when we can originate and begin to generate revenue from solar energy systems. This may increase our expenses and decrease revenue and cash receipts in the relevant periods. Furthermore, prevailing weather patterns could materially change in the future, making it harder to predict the average annual amount of sunlight striking each location where we install a solar energy system and energy storage system. This could make our solar energy systems less economical overall or make individual solar energy systems less economical. Any of these events or conditions could harm our business, financial condition and results of operations.

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

We depend on our experienced management team and the loss of one or more key executives could have a negative impact on our business. In particular, we are dependent on the services of our founder and CEO, William J. Berger. We also depend on our ability to retain and motivate key employees and attract qualified new employees. None of our key executives are bound by employment agreements for any specific term. We may be unable to replace key members of our management team and key employees if we lose their services. Integrating new employees into our team could prove disruptive to our operations, require substantial resources and management attention and ultimately prove unsuccessful. An inability to attract and retain sufficient managerial personnel who have critical industry experience and relationships could limit or delay our strategic efforts, which could have a material adverse effect on our business, financial condition and results of operations.

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

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

As a public company, our director and officer liability insurance expense increased significantly and we may be required to accept reduced coverage or incur substantially higher costs to maintain coverage. These factors could also make it more

difficult for us to attract and retain qualified executive officers and members of our Board, particularly to serve on our audit committee.

Our inability to protect our intellectual property could adversely affect our business. We may also be subject to intellectual property rights claims by third parties, which are extremely costly to defend, could require us to pay significant damages and could limit our ability to use certain technologies.

Any failure to protect our proprietary rights adequately could result in our competitors offering similar residential solar technology or energy storage services more quickly than anticipated, potentially resulting in the loss of some of our competitive advantage and a decrease in our revenue that would adversely affect our business prospects, financial condition and operating results. Our success depends, at least in part, on our ability to protect our core technology and intellectual property. We rely on intellectual property laws, primarily a combination of copyright and trade secret laws in the U.S., as well as license agreements and other contractual provisions, to protect our proprietary technology and brand. We cannot be certain our agreements and other contractual provisions will not be breached, including a breach involving the use or disclosure of our trade secrets or know-how, or that adequate remedies will be available in the event of any breach. In addition, our trade secrets may otherwise become known or lose trade secret protection.

We cannot be certain our products and our business do not or will not violate the intellectual property rights of a third party. Third parties, including our competitors, may own patents or other intellectual property rights that cover aspects of our technology or business methods. Such parties may claim we have misappropriated, misused, violated or infringed third-party intellectual property rights and if we gain greater recognition in the market, we face a higher risk of being the subject of claims we have violated others' intellectual property rights. Any claim we violated a third party's intellectual property rights, whether with or without merit, could be time-consuming, expensive to settle or litigate and could divert our management's attention and other resources, all of which could adversely affect our business, results of operations, financial condition and cash flows. If we do not successfully settle or defend an intellectual property claim, we could be liable for significant monetary damages and could be prohibited from continuing to use certain technology, business methods, content or brands. To avoid a prohibition, we could seek a license from third parties, which could require us to pay significant royalties, increasing our operating expenses. If a license is not available at all or not available on commercially reasonable terms, we may be required to develop or license a non-violating alternative, either of which could adversely affect our business, results of operations, financial condition and cash flows.

We currently use or plan to use software that is licensed under "open source", "free" or other similar licenses that may subject us to liability or require us to release the source code of our proprietary software to the public.

We currently use open source software that is licensed under "open source", "free" or other similar licenses. Open source software is made available to the general public on an "as-is" basis under the terms of a non-negotiable license. If we fail to comply with these licenses, we may be subject to certain conditions, including requirements that we offer our services that incorporate the open source software for no cost, we make available source code for modifications or derivative works we create based upon incorporating or using the open source software and we license such modifications or alterations under the terms of the particular open source license. We do not plan to integrate our proprietary software with this open source software in ways that would require the release of the source code of our proprietary software to the public. However, our use and distribution of open source software may entail greater risks than use of third-party commercial software. Our authorized developers may contribute to this open source software community but they will be prohibited from providing any proprietary process or proprietarily developed source code of ours. Open source licensors generally do not provide warranties or other contractual protections regarding infringement claims or the quality of the code. In addition, if we combine our proprietary software with open source software in a certain manner, we could, under certain open source licenses, be required to release the source code of our proprietary software to the public. This would allow our competitors to create similar offerings with lower development effort and time. We may also face claims alleging noncompliance with open source license terms or infringement or misappropriation of proprietary software.

These claims could result in litigation, require us to purchase a costly license or require us to devote additional research and development resources to change our software, any of which would have a negative effect on our business and operating results. In addition, if the license terms for open source software that we use change, we may be forced to re-engineer our technology platform or incur additional costs.

Although we monitor our use of open source software to avoid subjecting our technology platform to unintended conditions, few courts have interpreted open source licenses and there is a risk these licenses could be construed in a way that could impose unanticipated conditions or restrictions on our business. We cannot guarantee we have incorporated open source

software in our software in a manner that will not subject us to liability or in a manner consistent with our current policies and procedures.

We may be subject to interruptions or failures in our information technology systems.

We rely on information technology systems and infrastructure to support our business. Any of these systems may be susceptible to damage or interruption due to fire, floods, power loss, telecommunication failures, usage errors by employees, computer viruses, cyberattacks or other security breaches or similar events. A compromise of our information technology systems or those with which we interact could harm our reputation and expose us to regulatory actions and claims from customers and other persons, any of which could adversely affect our business, financial condition, cash flows and results of operations. If our information systems are damaged, fail to work properly or otherwise become unavailable, we may incur substantial costs to repair or replace them and we may experience a loss of critical information, customer disruption and interruptions or delays in our ability to perform essential functions.

Disruptions to our solar monitoring systems could negatively impact our revenues and increase our expenses.

Our ability to accurately charge our customers for the energy produced by our solar energy systems primarily depends on the cellular connection for the related monitoring system, which we are responsible for maintaining in a functional state so that we may receive data regarding the solar energy systems' production from their residences. We could incur significant expenses or disruptions of our operations in connection with failures of our solar monitoring systems, including failures of such connections, that would prevent us from accurately monitoring solar energy production. In addition, sophisticated hardware and operating system software and applications we procure from third parties may contain defects in design or manufacture, including "bugs" and other problems that could unexpectedly interfere with the operation of our solar energy systems or energy storage systems. The costs to us to eliminate or alleviate viruses and bugs, or any problems associated with failures of our cellular connections could be significant. We have in the past experienced periods where some of our cellular connections have been unavailable and, as a result, we have been forced to estimate the production of their solar energy systems. Such estimates may prove inaccurate and could cause us to underestimate the power being generated by our solar energy systems and undercharge our customers, thereby harming our results of operations.

Any unauthorized access to or disclosure or theft of personal information we gather, store or use could harm our reputation and subject us to claims or litigation.

We receive, store and use personal information of our customers, including names, addresses, e-mail addresses, credit information, credit card and financial account information and other housing and energy use information. We also store information of our dealers, including employee, financial and operational information. We rely on the availability of data collected from our customers and our dealers in order to manage our business and market our offerings. We take certain steps in an effort to protect the security, integrity and confidentiality of the personal information we collect, store or transmit, but there is no guarantee inadvertent or unauthorized use or disclosure will not occur or third parties will not gain unauthorized access to this information despite our efforts. We also rely on third-party suppliers or vendors to host certain of the systems we use. Although we take precautions to provide for disaster recovery, our ability to recover systems or data may be expensive and may interfere with our normal operations. Also, although we obtain assurances from such third parties they will use reasonable safeguards to secure their systems, we may be adversely affected by unavailability of their systems or unauthorized use or disclosure or our data maintained in such systems. Because techniques used to obtain unauthorized access or sabotage systems change frequently and generally are not identified until they are launched against a target, we, our suppliers or vendors and our dealers may be unable to anticipate these techniques or to implement adequate preventative or mitigation measures.

Cyberattacks in particular are becoming more sophisticated and include, but are not limited to, malicious software, attempts to gain unauthorized access to data and other electronic security breaches that could lead to disruptions in critical systems, disruption of our customers' operations, loss or damage to our data delivery systems, unauthorized release of confidential or otherwise protected information, corruption of data and increased costs to prevent, respond to or mitigate cybersecurity events. In addition, certain cyber incidents, such as advanced persistent threats, may remain undetected for an extended period.

Unauthorized use, disclosure of or access to any personal information maintained by us or on our behalf, whether through breach of our systems, breach of the systems of our suppliers, vendors or dealers by an unauthorized party or through employee or contractor error, theft or misuse or otherwise, could harm our business. If any such unauthorized use, disclosure of or access to such personal information were to occur, our operations could be seriously disrupted and we could be subject to demands, claims and litigation by private parties and investigations, related actions and penalties by regulatory authorities.

In addition, we could incur significant costs in notifying affected persons and entities and otherwise complying with the multitude of federal, state and local laws and regulations relating to the unauthorized access to, use of or disclosure of personal information. Finally, any perceived or actual unauthorized access to, use of or disclosure of such information could harm our reputation, substantially impair our ability to expand our portfolio of solar service agreements and related solar energy systems and energy storage systems and have an adverse impact on our business, financial condition and results of operations. The COVID-19 pandemic generally is increasing the attack surface available to criminals, as more companies and individuals work remotely and otherwise work online. Consequently, the risk of a cybersecurity incident suffered by us or our vendors or service providers is increased, and our investment in risk mitigations against cybersecurity incidents is evolving as the threat landscape changes. While we currently maintain cybersecurity insurance, such insurance may not be sufficient to cover us against claims, and we cannot be certain that cyber insurance will continue to be available to us on economically reasonable terms, or at all, or that any insurer will not deny coverage as to any future claim.

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

Consumer personal privacy and data security have become significant issues and the subject of rapidly evolving regulation in the U.S. Furthermore, federal, state and local government bodies or agencies have in the past adopted, and may in the future adopt, more laws and regulations affecting data privacy. For example, the state of California enacted the California Consumer Privacy Act of 2018 ("CCPA") and California voters recently approved the California Privacy Rights Act ("CPRA"). The CCPA creates individual privacy rights for consumers and places increased privacy and security obligations on entities handling the personal data of consumers or households. The CCPA went into effect on January 1, 2020 and it requires covered companies to provide new disclosures to California consumers, provides such consumers, business-to-business contacts and employees new ways to opt-out of certain sales of personal information, and allows for a new private right of action for data breaches. The CPRA modifies the CCPA and imposes additional data protection obligations on companies doing business in California, including additional consumer rights processes and opt outs for certain uses of sensitive data. While the CPRA will not take full effect until January 2023, it establishes a new California privacy regulator before that date. The CCPA and the CPRA may significantly impact our business activities and require substantial compliance costs that adversely affect our business, operating results, prospects and financial condition. To date, we have not experienced substantial compliance costs in connection with fulfilling the requirements under the CCPA or CPRA. However, we cannot be certain that compliance costs will not increase in the future with respect to the CCPA and CPRA or any other recently passed consumer privacy regulation.

Any inability to adequately address privacy and security concerns, even if unfounded, or comply with applicable privacy and data security laws, regulations and policies, could result in additional cost and liability to us, damage our reputation, inhibit sales and adversely affect our business. Furthermore, the costs of compliance with, and other burdens imposed by, the laws, regulations and policies that are applicable to our business may limit the use and adoption of, and reduce the overall demand for, our solutions. If we are not able to adjust to changing laws, regulations and standards related to privacy or security, our business may be harmed.

We may become involved in the future in legal proceedings that could adversely affect our business.

We may, from time to time, be involved in litigation and claims, such as those relating to employees, customers, our dealers or other third parties with whom we contract, including consumer claims and class action lawsuits. In the ordinary course of business, we have disputes with dealers and customers. In general, litigation claims or regulatory proceedings can be expensive and time consuming to bring or defend against, may result in the diversion of management attention and resources from our business and business goals and could result in injunctions or other equitable relief, settlements, penalties, fines or damages that could significantly affect our results of operations and the conduct of our business. It is impossible to predict with certainty whether any resulting liability would have a material adverse effect on our financial position, results of operations or cash flows.

We intend to expand our operations to include international activities, which will subject us to a number of risks.

Our long-term strategic plans include international expansion, including expansion into jurisdictions that have characteristics similar to those in which we currently operate. Risks inherent to international operations include the following:

- the inability to work successfully with dealers with local expertise to originate international solar service agreements;
- multiple, conflicting and changing laws and regulations, including export and import laws and regulations, economic sanctions laws and regulations, tax laws and regulations, environmental regulations, labor laws and other government requirements, approvals, permits and licenses;

- laws and legal systems less developed or less predictable than those in the U.S.;
- changes in general economic and political conditions in the jurisdictions where we operate, including changes in government incentives relating to power generation and solar electricity;
- political and economic instability, including wars, acts of terrorism, political unrest, boycotts, curtailments of trade and other business restrictions;
- difficulties and costs in recruiting and retaining individuals skilled in international business operations;
- international business practices may conflict with U.S. customs or legal requirements, including anti-bribery and corruption regulations;
- financial risks, such as longer sales and payment cycles and greater difficulty collecting accounts receivable or executing self-help remedies, if necessary;
- deficient or unreliable records relating to real property ownership;
- potentially lower margins due to a lower average income level;
- fluctuations in currency exchange rates relative to the U.S. dollar; and
- the inability to obtain, maintain or enforce intellectual property rights, including inability to apply for or register material trademarks in foreign countries, which could make it easier for competitors to capture increased market position.

Doing business in foreign markets requires us to be able to respond to rapid changes in market, legal and political conditions in these countries. The success of our business will depend, in part, on our ability to succeed in differing legal, regulatory, economic, social and political environments. We may not be able to develop and implement policies and strategies that will be effective in each location where we do business.

Our future operations may subject us to risks associated with currency fluctuations.

Our future international operations may subject us to risks relating to currency fluctuations. Foreign currencies periodically experience rapid and/or large fluctuations in value against the U.S. dollar. A weakened U.S. dollar could increase the cost of procurement of raw materials, by our suppliers, from foreign jurisdictions and operating expenses in foreign locations, which could have a material adverse effect on our business and results of operations. Our planned international expansion further subjects us to currency risk.

Since the price at which we originate solar energy systems from our dealers is generated in U.S. dollars, we are mostly insulated from currency fluctuations. However, since suppliers of our dealers often incur a significant amount of their costs by purchasing raw materials and generating operating expenses in foreign currencies, if the value of the U.S. dollar depreciates significantly or for a prolonged period of time against these other currencies, this may cause those suppliers to raise the prices they charge us and our dealers, which in turn could harm our business and results of operations. Although the value of the U.S. dollar has been high relative to other currencies in recent periods, there is no guarantee this trend will continue.

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

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

Terrorist or cyberattacks against centralized utilities could adversely affect our business.

Assets owned by utilities such as substations and related infrastructure have been physically attacked in the past and will likely be attacked in the future. These facilities are often protected by limited security measures, such as perimeter fencing. Any

such attacks may result in interruption to electricity flowing on the grid and consequently interrupt service to our solar energy systems not combined with an energy storage system, which could adversely affect our operations. Furthermore, cyberattacks, whether by individuals or nation states, against utility companies could severely disrupt their business operations and result in loss of service to customers, which would adversely affect our operations.

Risks Related to the Acquisition

We may not be successful in completing the Acquisition.

The consummation of the Acquisition is subject to certain conditions, including the receipt of regulatory approval under the Hart-Scott Rodino Antitrust Improvements Act, which may or may not be obtained. If the conditions to the consummation of the transactions contemplated by the Merger Agreement are not satisfied, or if the Merger Agreement is terminated prior to closing, the Acquisition will not be consummated. In addition, the Acquisition is subject to an outside termination date of September 1, 2021. If the Acquisition is not completed by the outside termination date, it will not be consummated except by mutual agreement of Sunnova and Len[x] to extend the outside date.

We expect to incur significant transaction and acquisition-related costs in connection with the Acquisition.

We expect to incur significant costs associated with the Acquisition and combining our existing operations with those of SunStreet. The substantial majority of the expenses resulting from the Acquisition will be composed of transaction costs related to the Acquisition and business integration costs. Additional unanticipated costs may be incurred in the integration of the two businesses. Although we expect that the elimination of duplicative costs, as well as the realization of other efficiencies related to the integration of the businesses, should allow us to offset incremental transaction and acquisition-related costs over time, this net benefit may not be achieved in the near term, or at all.

The success of the Acquisition and our ability to derive our expected benefits from the Acquisition are subject to substantial risks.

The success of the proposed Acquisition and our ability to derive the expected benefits from the Acquisition involves potential risks, including, among other things:

- the validity of our assumptions and projections about the rate of solar adoption in new home construction and our ability to originate in such communities, revenues of the SunStreet business, anticipated capital expenditures and operating costs of SunStreet;
- our ability to successfully market and sell solar service agreements to existing Lennar Corporation customers;
- assumptions about achieving synergies with our existing business, including the solar service agreement origination process;
- the validity of our assessment of the ongoing maintenance and service requirements and costs of existing solar energy systems for which SunStreet continues to hold the ongoing service obligation;
- a failure to realize anticipated benefits, such as enhanced competitive position within the homebuilding space or new customer relationships through the exclusivity arrangements with Lennar Corporation; and
- the incurrence of other significant charges, such as impairment of goodwill or other intangible assets.

The success of the Acquisition will depend, in part, on our ability to realize the anticipated benefits from combining SunStreet and our business, including operational and other synergies that we believe the post-acquisition company will achieve. The anticipated benefits of the Acquisition may not be realized fully or at all, may take longer to realize than expected or could have other adverse effects that we do not currently foresee. Some of the assumptions we have made, such as the achievement of operating synergies, may not be realized.

The Acquisition is subject to substantial integration risks that could adversely affect our financial condition and results of operations.

Integration of SunStreet with our existing business will be a complex, time-consuming and costly process, and we may not be as successful as anticipated. The Acquisition involves numerous operational, strategic, financial, accounting, legal, tax and other risks. Difficulties in integrating SunStreet, particularly during the COVID-19 pandemic, and our ability to manage SunStreet after the closing of the Acquisition, may result in our performing differently than expected, in operational challenges or in the delay or failure to realize anticipated expense-related efficiencies, and could have an adverse effect on our financial

condition, results of operations or cash flows. Potential difficulties that may be encountered in the integration process include, among other things:

- the inability to successfully integrate SunStreet, operationally and culturally, in a manner that permits us to achieve the full anticipated origination benefits from the Acquisition;
- performance shortfalls as a result of integrating SunStreet's operations, which, if such shortfalls were to result in a loss of exclusivity arrangements with Lennar Corporation, would substantially reduce the benefits of the Acquisition to us;
- failure to obtain any necessary permits or licenses in connection with the operation of the SunStreet business;
- performance shortfalls due to the COVID-19 pandemic and related decline in demand for new home construction or solar energy services in new communities;
- complexities associated with managing a larger, more complex, integrated business, including the potential diversion of our management's attention;
- not realizing anticipated operating synergies;
- potential unknown liabilities and unforeseen expenses, delays or regulatory conditions associated with the Acquisition;
- integrating relationships with customers, dealers, homebuilders, vendors and business partners;
- the disruption of, or the loss of momentum in, each company's ongoing business or inconsistencies in standards, controls, procedures and policies;
- the maintenance of an effective system of internal controls and integrating internal controls, compliance under the Sarbanes-Oxley Act of 2002 and other regulatory compliance and corporate governance matters;
- difficulties integrating new technology systems for financial reporting;
- the inability to hire, train or retrain qualified personnel to manage and operate our growing business and assets; and
- an inability to complete other internal growth projects and/or acquisitions.

If we consummate the Acquisition and if any of these risks or unanticipated liabilities or costs were to materialize, then any desired benefits from the Acquisition may not be fully realized, if at all, and our future results of operations could be negatively impacted.

Our results may suffer if we do not effectively manage our expanded operations following the Acquisition.

Following completion of the Acquisition, the size of our business will increase beyond its current size and the nature of our business operations will shift from retrofitting solar energy systems and entering into solar service agreements with existing homeowners to also originating solar service agreements as an integrated step in the homebuilding process. Our future success will depend, in part, on our ability to manage this expanded business, which poses numerous risks and uncertainties, including the need to integrate SunStreet and their operations into our existing business in an efficient and timely manner, to combine systems and management controls and to integrate relationships with customers, dealers, homebuilders, vendors and business partners. Failure to successfully manage SunStreet may have an adverse effect on our financial condition, results of operations or cash flows.

Risks Related to Regulations

We are not currently regulated as an electric public utility under applicable law but may be subject to regulation as an electric utility in the future.

We are not currently regulated as an electric public utility in the U.S. under applicable national, state or other local regulatory regimes where we conduct business. As a result, we are not currently subject to the various federal, state and local standards, restrictions and regulatory requirements applicable to centralized public utilities. Any federal, state or local regulations that cause us to be treated as an electric utility or to otherwise be subject to a similar regulatory regime of commission-approved operating tariffs, rate limitations and related mandatory provisions, could place significant restrictions on our ability to operate our business and execute our business plan by prohibiting, restricting or otherwise regulating our sale of electricity. If we were subject to the same state or federal regulatory authorities as centralized electric utilities in the U.S. and its territories or if new regulatory bodies were established to oversee our business in the U.S. and its territories or in foreign markets we enter, our operating costs would materially increase or we might have to change our business in ways that could have a material adverse effect on our business, financial condition and results of operations.

While we are not regulated as extensively as an electric public utility, we are subject to certain utility-like regulations in California, New York, Arizona, Nevada, Florida and Puerto Rico. In New York, distributed energy providers are subject to regulation by the New York Public Service Commission (the "NYPSC") with respect to customer interactions (including contracting and marketing) and are required to comply with the NYPSC's Uniform Business Practices. In connection with approving the Uniform Business Practices, the NYPSC also established an oversight framework under which it could impose

other regulatory requirements on distributed energy providers. In Puerto Rico, we are regulated as an electric power company under applicable Puerto Rico Energy Bureau regulations in connection with the sale and invoicing of energy generated by distributed generation systems having an aggregate capacity of more than 1 megawatt. Among other requirements, these regulations impose certain filing, certification, reporting and annual fee requirements upon us but do not currently subject the companies to centralized utility-like regulation or require the Puerto Rico Energy Bureau's approval of their charges. In California, the California Public Utilities Commission ("CPUC") issued an order approving several consumer protection measures for solar customers, including a requirement for solar providers to provide customers with the California Solar Consumer Protection Guide, which provides customers with information regarding the selection of a contractor, solar financing, bill savings estimates, net energy metering and electric rates, low-income options and related matters. The CPUC order also requires the investor-owned utilities in California to adopt procedures to verify during the interconnection process that the customer received the California Solar Consumer Protection Guide and that the solar provider is licensed, and to collect and report on complaints regarding solar providers. If we become subject to new, additional regulatory requirements in these jurisdictions or other jurisdictions adopt similar regulatory requirements, our operating costs would materially increase or we might have to change our business in ways that could have a material adverse effect on our business, financial condition and results of operations.

Electric utility policies and regulations, including those affecting electric rates, may present regulatory and economic barriers to the purchase and use of solar energy systems that may significantly reduce demand for electricity from our solar energy systems and adversely impact our ability to originate new solar service agreements.

Federal, state and local government regulations and policies concerning the electric utility industry, utility rates and rate structures and internal policies and regulations promulgated by electric utilities, heavily influence the market for electricity generation products and services. These regulations and policies often relate to electricity pricing. Policies and regulations that promote renewable energy and distributed energy generation have been challenged by centralized electric utilities and questioned by those in government and others arguing for less governmental spending and involvement in the energy market. To the extent such views are reflected in government policies and regulations, the changes in such policies and regulations could adversely affect our business, financial condition and results of operations. Furthermore, any effort to overturn federal and state laws, regulations or policies that are supportive of solar energy generation or that remove costs or other limitations on other types of energy generation that compete with solar energy projects could materially and adversely affect our business.

In the U.S., governmental authorities and state public service commissions that determine utility rates, rate structures and the terms and conditions of electric service continuously modify these regulations and policies. These regulations and policies could result in a significant reduction in the potential demand for electricity from our solar energy systems and could deter customers from entering into solar service agreements with us.

With regard to rates, customers with residential solar energy systems may currently pay or be subject in the future to increased charges due to increased rates or changes in rate design and structures. Utilities in certain jurisdictions may assess fees that apply only to customers with distributed generation systems, including residential solar energy systems or impose charges on solar customers that are significantly higher than comparable charges billed to non-solar customers.

These fees may include demand, stand-by or departing load charges or monthly minimum charges. Certain jurisdictions may permit utilities to change their rate design and structures which could result in charges that would disproportionately impact customers with solar energy systems. For example, a reduction in the number of tiers of residential rates could result in increased charges for lower-demand customers, including many solar customers, by moving them to a new rate tier with higher rates. It could also result in lower charges for higher-demand customers, who may then become less incentivized to consider solar energy to meet their electricity needs. Similarly, a change in rate design to recover more costs from fixed charges as opposed to variable charges (i.e. "decoupled" rates, by which the utility's revenue requirement is "decoupled" from its level of electricity sales in designing rates) may have the same effect. Additionally, depending on the region, electricity generated by solar energy systems competes most effectively with the most expensive retail rates for electricity from the electrical grid, rather than the less expensive average price of electricity. Modifications to the centralized electric utilities' peak hour pricing policies or rate design could make our current product offerings less competitive with the price of electricity from the electrical grid. A shift in the timing of peak rates for utility-generated electricity to include times of day when solar energy generation is less efficient or non-operable could make our solar energy systems less competitive and reduce demand for our product offerings. Time-of-use rates could also result in higher costs for solar customers whose electricity requirements are not fully met by the solar energy system during peak periods.

Utilities in California, New Jersey and Puerto Rico, among other states and jurisdictions, have proposed or received approval by state regulators for such rate measures as described in this risk factor. Any such changes affecting rates could increase our customers' cost to use our solar energy systems and make our service and product offerings less desirable, thereby

harming our business, financial condition and results of operations. The imposition of any such rate measures could limit the ability of distributed residential solar power companies to compete with the price of electricity generated by centralized electric utilities, which may reduce the number of solar energy systems installed in those jurisdictions. Additionally, any such unaccounted for increases in the fees or charges applicable to existing customer agreements may increase the cost of energy to those customers and result in an increased rate of defaults, terminations or cancelations under our solar service agreements. In addition, changes to government or internal utility regulations and policies that favor centralized electric utilities could reduce our competitiveness and cause a significant reduction in demand for our product offerings.

Any of the foregoing results could limit our ability to expand our portfolio of solar service agreements and related solar energy systems and energy storage systems or harm our business, financial condition and results of operations.

We rely on net metering and related policies to offer competitive pricing to our customers in most of our current markets and changes to net metering policies may significantly reduce demand for electricity from residential solar energy systems.

Net metering is one of several key policies that have enabled the growth of distributed generation solar energy systems in the U.S., providing significant value to customers for electricity generated by their residential solar energy systems but not directly consumed on-site. Net metering allows a homeowner to pay his or her local electric utility for power usage net of production from the solar energy system or other distributed generation source. Homeowners receive a credit for the energy an interconnected solar energy system generates in excess of that needed by the home to offset energy purchases from the centralized utility made at times when the solar energy system is not generating sufficient energy to meet the customer's demand. In many markets, this credit is equal to the residential retail rate for electricity and in other markets, such as Hawaii and Nevada, the rate is less than the retail rate and may be set, for example, as a percentage of the retail rate or based upon a valuation of the excess electricity. In some states and utility territories, customers are also reimbursed by the centralized electric utility for net excess generation on a periodic basis.

Net metering programs have been subject to legislative and regulatory scrutiny in some states and territories including, but not limited to, New Jersey, California, Arizona, Nevada, Connecticut, Maine, Kentucky, Puerto Rico and Guam. These jurisdictions, by statute, regulation, administrative order or a combination thereof, have recently adopted or are considering new restrictions and additional changes to net metering programs either on a state-wide basis or within specific utility territories. Many of these measures were introduced and supported by centralized electric utilities. These measures vary by jurisdiction and may include a reduction in the rates or value of the credits customers are paid or receive for the power they deliver back to the electrical grid, caps or limits on the aggregate installed capacity of generation in a state or utility territory eligible for net metering, expiration dates for and phasing out of net metering programs, replacement of net metering programs with alternative programs that may provide less compensation and limits on the capacity size of individual distributed generation systems that can qualify for net metering. Net metering and related policies concerning distributed generation also received attention from federal legislators and regulators.

In New Jersey, the Board of Public Utilities has the option under state law of limiting participation in the retail rate net metering program if the aggregate capacity of owned and operating systems reaches 5.8% of total annual kWh sold in the state. As of December 31, 2020, that threshold had not yet been reached.

In California, the CPUC issued an order in 2016 retaining retail-based net metering credits for residential customers of California's major utilities as part of Net Energy Metering 2.0 ("NEM 2.0"). Under NEM 2.0, new distributed generation customers receive the retail rate for electricity exported to the grid, less certain non-bypassable fees. Customers under NEM 2.0 also are subject to interconnection charges and time-of-use rates. Existing customers who receive service under the prior net metering program, as well as new customers under the NEM 2.0 program, are grandfathered for a period of 20 years. On September 3, 2020, the CPUC opened a new proceeding to review its current net metering policies and to develop Net Energy Metering 3.0 ("NEM 3.0"), also referred to by the CPUC as the NEM 2.0 successor tariff, with the goal of implementing NEM 3.0 no later than December 31, 2021. While the outcome of this proceeding is uncertain, it could result in the reduction of the value of net metering credits, although customers under NEM 2.0 are expected to remain under that program for 20 years from enrollment. Proceedings on distributed energy policy and utility rates before the CPUC could also result in changes that affect customers with distributed generation systems.

Legislation enacted in April 2019 requires a study of net metering to be completed within five years, which may result in revisions to the existing rules. However, no changes can be made to retail net metering for five years after the date the legislation was enacted. Meanwhile, "true" net metering will continue to apply, meaning the credit for energy exported by net metering clients will equal the value of such energy under the rate applicable to those clients and accordingly, their charges will be based on their net consumption. Customers subject to this regime would be grandfathered for a period of 20 years from the date of their net metering agreements.

Net metering customers in Puerto Rico may be impacted by transition charges and other requirements contemplated in a restructuring agreement between PREPA and its creditors, currently pending before the U.S. District Court for the District of Puerto Rico in bankruptcy-like proceedings under Title III of the PROMESA. PROMESA provides PREPA with access to a workout process similar to bankruptcy. In response to the effects of the COVID-19 pandemic, however, the approval of the restructuring agreement has been stayed, and the government announced in December 2020 that it continues to conduct diligence to determine whether, among other things, the terms of the restructuring agreement should be renegotiated and the parameters for doing so.

In Guam, the Consolidated Commission on Utilities ("CCU") adopted a resolution in 2018 recommending retail rate net metering for customers of the Guam Power Authority ("GPA") be replaced with a "buy all/sell all" or similar program that provides for compensation to homeowners at a lower, avoided cost rate. The GPA is a public corporation that provides electricity in Guam and is overseen by the CCU and regulated by the Guam Public Utilities Commission ("GPUC"). In 2019, the GPUC, who has the authority to approve or reject the CCU's recommendations, rejected the resolution and instead voted to cap participation in the net metering program from 1,000 customers to 261 megawatts, which represents 10% of the GPA system's peak power demand. The GPA has also proposed to eliminate the option for customers to roll over any excess net metering credits to the next year or receive a payment for excess credits remaining at the end of the year. In May 2020, the GPUC approved the GPA's proposal to eliminate the option for customers to roll over any excess net metering credits or receive a payment for excess credits remaining at the end of the year. This change will go into effect on January 1, 2021. Customers will be able to receive a payment for excess credits at the end of 2020, but any excess credits remaining at the end of a year in the future will be surrendered to the utility without compensation. In February 2020, the CCU adopted a resolution requiring all new distributed generation that participates in net metering and is tied to the GPA power grid to have an energy storage system such as a battery. In lieu of having an energy storage system, the CCU resolution permits customers to instead select pay an additional charge under an energy storage service rate schedule that is under development. The GPUC has approved the CCU proposal, but requirements for implementation have not yet been finalized.

In other jurisdictions, replacing net metering with a "value of distributed energy", "feed-in", or "sell-all/ buy-all" tariff is also being considered or has been adopted. Under a "value of distributed energy" tariff, the customer would be compensated at a rate that accounts for the electricity, capacity, environmental and other attributes provided by distributed generation to the grid and the electricity market. Under a "feed-in" or "sell-all/ buy-all" tariff, all the solar energy system's generation is exported to the grid and purchased by the utility at an established rate and the customer is required to purchase all of its electricity requirements from the utility at the retail rate. In New York, the New York Public Service Commission adopted a "value of distributed energy" policy but grandfathered existing net metering customers and continuing net metering for new residential customers interconnected before January 1, 2022 for a period of 20 years. Residential customers otherwise still eligible for net metering may also elect to be compensated under a "value of distributed energy" tariff. New solar customers interconnecting after January 1, 2022 will continue to be eligible for net metering, but will be subject to a monthly fixed fee. Compensation for those customers covered by a "value of solar" tariff varies and may not favorably compare to that provided by net metering.

Net metering and related policies concerning distributed generation have received attention from federal legislators and regulators and challenge by various stakeholders. For example, in April 2020, the New England Ratepayers Association petitioned the FERC to declare its exclusive federal jurisdiction over distributed generation, including residential solar, and to establish new federal customer compensation rates for excess energy in lieu of state net metering programs. While the FERC rejected the petition on procedural grounds, further challenges to net metering based on federal law may occur. Changes in federal law, including those made by statute, regulation, rule or order, could negatively affect net metering or other related policies that otherwise promote and support solar energy and enhance the economic viability of distributed residential solar.

If net metering caps in certain jurisdictions are reached while they are still in effect, if the value of the credit that customers receive for net metering is significantly reduced, if net metering is discontinued or replaced by a different regime that values solar energy at a lower rate or if other limits or restrictions on net metering are imposed, current and future customers may be unable to recognize the same level of cost savings associated with net metering. The absence of favorable net metering policies or of net metering entirely, or the imposition of new charges that only or disproportionately impact customers that use net metering would likely significantly limit customer demand for distributed residential solar energy systems and the electricity they generate and result in an increased rate of defaults, terminations or cancelations under customer agreements. Our ability to lease, finance and sell our solar energy systems and services or sell the electricity generated from our solar energy systems may be adversely impacted by the failure to expand existing limits on the amount of net metering in states that have implemented it, the failure to adopt a net metering policy where it currently is not in place or reductions in the amount or value of credit customers receive through net metering. This could adversely impact our ability to expand our portfolio of solar service agreements and related solar energy systems and energy storage systems, our business, financial condition and results of operations.

Additionally, distributed residential solar customers in certain jurisdictions may be subject to higher charges from centralized electric utilities than non-solar customers and such charges should be evaluated together with the net metering policies in place. If such charges are imposed, the cost savings associated with switching to solar energy may be significantly reduced and our ability to expand our portfolio of solar service agreements and related solar energy systems and energy storage systems and compete with centralized electric utilities could be impacted.

For further discussion of these potential charges and related proposals, see "*—Electric utility policies and regulations, including those affecting electric rates, may present regulatory and economic barriers to the purchase and use of solar energy systems that may significantly reduce demand for electricity from our solar energy systems and adversely impact our ability to originate new solar service agreements*".

Our business currently depends in part on the availability of rebates, tax credits and other financial incentives. The expiration, elimination or reduction of these rebates, credits or incentives or our ability to monetize them could adversely impact our business.

Our business depends in part on current government policies that promote and support solar energy and enhance the economic viability of distributed residential solar. Revenues from SRECs constituted approximately 22%, 29% and 29% of our revenues for the years ended December 31, 2020, 2019 and 2018, respectively. U.S. federal, state and local governments established various incentives and financial mechanisms to reduce the cost of solar energy and to accelerate the adoption of solar energy. These incentives come in various forms, including rebates, tax credits and other financial incentives such as payments for renewable energy credits associated with renewable energy generation, exclusion of solar energy systems from property tax assessments or other taxes and system performance payments. However, these programs may expire on a particular date, end when the allocated funding is exhausted or be reduced or terminated as solar energy adoption rates increase. For example, New Jersey's SREC program closed due to legislation requiring that it be closed by the earlier of the share of electricity sold by the state's utilities supplied by solar reaching 5.1% or June 2021. Following the close of the program, customers became eligible for Transitional Renewable Energy Credits ("TRECS") under an interim transitional program replacing SRECs that will be in place until New Jersey adopts a long-term successor program. The TREC program provides a lower level of revenue than the SREC program. The financial value of certain incentives decreases over time. The value of SRECs in a market tends to decrease over time as the supply of SREC-producing solar energy systems installed in that market increases. If we overestimate the future value of these incentives, it could adversely impact our business, results of operations and financial results. See "*Business—Government Incentives*".

A loss or reduction in such incentives could decrease the attractiveness of new solar energy systems to customers, which could adversely impact our business and our access to capital. We also enter into hedges related to expected production of SRECs through forward contracts that require us to physically deliver the SRECs upon settlement. These arrangements may, depending on the instruments used and the level of additional hedges involved, limit any potential upside from SREC production increases. We may be exposed to potential economic loss should a counterparty be unable or unwilling to perform their obligations under the terms of a hedging agreement. In addition, we are exposed to risks related to changes in interest rates and may engage in hedging activities to mitigate related volatility. We may fail to properly hedge these SRECs or may fail to do so economically, which may also adversely affect our results of operations.

The economics of purchasing a solar energy system and energy storage system are also improved by eligibility for accelerated depreciation, also known as the modified accelerated cost recovery system ("MACRS"), which allows for the depreciation of equipment according to an accelerated schedule set forth by the IRS. This accelerated schedule allows a taxpayer, such as us and investors in tax equity financing arrangements, to recognize the depreciation of tangible solar property on a five-year basis even though the useful life of such property is generally greater than five years. We benefit from accelerated depreciation on the solar energy systems and energy storage systems we own. To the extent these policies are changed in a manner that reduces the incentives that benefit our business, we may experience reduced revenues and reduced economic returns, experience increased financing costs and encounter difficulty obtaining financing.

The federal government currently provides business investment tax credits under Section 48 and residential energy credits under Section 25D of the Code. Section 48(a) of the Code allows taxpayers to claim an investment tax credit equal to 30% of the qualified expenditures for certain commercially owned solar energy systems that began construction before 2020. The Section 48(a) ITC percentage decreases to 26% of the basis of a solar energy system that begins construction during 2020, 2021 or 2022, 22% for 2023 and 10% if construction begins after 2023 or if the solar energy system is placed into service after 2025. In June 2018, the IRS provided guidance as to when construction is considered to begin for such purposes, including the 5% ITC Safe Harbor that may apply when a taxpayer pays or incurs (or in certain cases, a contractor of the taxpayer pays or incurs) 5% or more of the costs of a solar energy system before the end of the applicable year.

We would be able to claim the Section 48(a) ITC when available for solar energy systems we originate under lease agreements or PPAs based on our ownership of the solar energy system at the time it is placed in service. We are also able to claim the Section 48(a) ITC for energy storage systems installed in conjunction with solar energy systems as long as they are only charged by on-site solar. A reduced Section 48(a) ITC may be available for energy storage systems charged in part from sources other than on-site solar as long as the energy storage systems are charged at least 75% by on-site solar.

Until 2023, Section 25D of the Code allows an individual to claim a 26% federal tax credit with respect to a residential solar energy system that is owned by the homeowner. As a result, the Section 25D Credit is claimed by customers who purchase solar energy systems. This 26% rate is scheduled to be reduced to 22% for solar energy systems placed in service during 2023. This credit is scheduled to expire effective January 1, 2024. The Section 25D Credit reduces the cost of consumer ownership of solar energy systems, such as under the loan program.

The Section 48(a) ITC has been a significant driver of the financing supporting the adoption of residential solar energy systems in the U.S. and the Section 25D Credit has been a significant driver of consumer demand for ownership of solar energy systems. The reduction in, or expiration of, these tax credits will likely impact the attractiveness of residential solar and could harm our business. For example, we expect the expiration of the Section 25D Credit will increase the cost of consumer ownership of solar energy systems, such as under the loan program.

The scheduled reductions in the Section 48(a) ITC could adversely impact our financing structures that monetize a substantial portion of such Section 48(a) ITC and provide financing for our solar energy systems, including if solar energy systems that incorporate our inventory are unsuccessful in claiming the 5% ITC Safe Harbor and therefore fail to qualify for a higher Section 48(a) ITC. To the extent we have a reduced ability to raise tax equity as a result of this reduction or an inability to continue to monetize such benefits in our financing arrangements, the rate of growth of installations of our residential solar energy systems and our ability to maintain such solar energy systems could be negatively impacted. In addition, future changes in existing law and interpretations by the IRS or the courts with respect to certain matters, including but not limited to, treatment of the Section 48(a) ITC, the 5% ITC Safe Harbor and our financing arrangements and the taxation of business entities including the deductibility of interest expense could affect the amount tax equity investors are willing to invest, which could reduce our access to capital. See "*Business—Government Incentives*".

Applicable authorities may adjust or decrease incentives from time to time or include provisions for minimum domestic content requirements or other requirements to qualify for these incentives. Reductions in, eliminations or expirations of or additional application requirements for governmental incentives could adversely impact our results of operations and ability to compete in our industry by increasing our cost of capital, causing distributed residential solar power companies to increase the prices of their energy and solar energy systems and reducing the size of our addressable market. In addition, this would adversely impact our ability to attract investment partners and lenders and our ability to expand our portfolio of solar service agreements and related solar energy systems and energy storage systems.

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

Our lease and PPA agreements are third-party ownership arrangements. Retail sales of electricity by third parties such as us face regulatory challenges in some states and jurisdictions, including states and jurisdictions we intend to enter where the laws and regulatory policies have not historically embraced competition to the service provided by the vertically integrated centralized electric utility. Some of the principal challenges pertain to whether third-party owned solar energy systems qualify for the same levels of rebates or other non-tax incentives available for customer-owned solar energy systems, whether third-party owned solar energy systems are eligible at all for these incentives and whether third-party owned solar energy systems are eligible for net metering and the associated significant cost savings. Furthermore, in some states and utility territories third parties are limited in the way they may deliver solar to their customers. In jurisdictions such as Arizona, Kentucky, North Carolina, Utah and Los Angeles, California, laws have been interpreted to prohibit the sale of electricity pursuant to PPAs, leading distributed residential solar energy system providers to use leases in lieu of PPAs, in addition to customer ownership. These regulatory constraints may, for example, give rise to various property tax issues. See "*Risks Related to Taxation*". Changes in law and reductions in, eliminations of or additional requirements for, benefits such as rebates, tax incentives and favorable net metering policies decrease the attractiveness of new solar energy systems to distributed residential solar power companies and the attractiveness of solar energy systems to customers, which could reduce our acquisition opportunities. Such a loss or reduction could also adversely impact our access to capital and reduce our willingness to pursue solar energy systems due to higher operating costs or lower revenues from leases and PPAs.

Technical and regulatory limitations regarding the interconnection of solar energy systems to the electrical grid may significantly reduce our ability to sell electricity from our solar energy systems in certain markets or delay interconnections and customer in-service dates, harming our growth rate and customer satisfaction.

Technical and regulatory limitations regarding the interconnection of solar energy systems to the electrical grid may curb or slow our growth in key markets. Utilities throughout the country follow different rules and regulations regarding interconnection and regulators or utilities have or could cap or limit the amount of solar energy that can be interconnected to the grid. Our solar energy systems generally do not provide power to homeowners until they are interconnected to the grid.

With regard to interconnection limits, the FERC, in promulgating the first form of small generator interconnection procedures, recommended limiting customer-sited intermittent generation resources, such as our solar energy systems, to a certain percentage of peak load on a given electrical feeder circuit. Similar limits have been adopted by many states as a de facto standard and could constrain our ability to market to customers in certain geographic areas where the concentration of solar installations exceeds this limit.

Furthermore, in certain areas, we benefit from policies that allow for expedited or simplified procedures related to connecting solar energy systems and energy storage systems to the electrical grid. We also are required to obtain interconnection permission for each solar energy system from the local utility. In many states and territories, by statute, regulations or administrative order, there are standardized procedures for interconnecting distributed residential solar energy systems and related energy storage systems to the electric utility's local distribution system. However, approval from the local utility could be delayed as a result of a backlog of requests for interconnection or the local utility could seek to limit the number of customer interconnections or the amount of solar energy on the grid. In some states, such as New Jersey and Massachusetts, certain utilities such as municipal utilities or electric cooperatives are exempt from certain interconnection requirements. If expedited or simplified interconnection procedures are changed or cease to be available, if interconnection approvals from the local utility are delayed or if the local utility seeks to limit interconnections, this could decrease the attractiveness of new solar energy systems and energy storage systems to distributed residential solar power companies, including us, and the attractiveness of solar energy systems and energy storage systems to customers. Delays in interconnections could also harm our growth rate and customer satisfaction scores. Such limitations or delays could also adversely impact our access to capital and reduce our willingness to pursue solar energy systems and energy storage systems due to higher operating costs or lower revenues from solar service agreements. Such limitations would negatively impact our business, results of operations, future growth and cash flows.

As adoption of solar distributed generation rises, along with the increased operation of utility-scale solar generation (such as in key markets including California), the amount of solar energy being contributed to the electrical grid may surpass the capacity anticipated to be needed to meet aggregate demand. Some centralized public utilities claim in less than five years, solar generation resources may reach a level capable of producing an over-generation situation, which may require some existing solar generation resources to be curtailed to maintain operation of the electrical grid. In the event such an over-generation situation were to occur, this could also result in a prohibition on the addition of new solar generation resources. The adverse effects of such a curtailment or prohibition without compensation could adversely impact our business, results of operations, future growth and cash flows.

We and our dealers are subject to risks associated with construction, regulatory compliance and other contingencies.

We utilize our growing dealer network to market, design, construct and install solar energy systems and energy storage systems in each of the markets in which we operate. The marketing and installation of solar energy systems and energy storage systems is subject to oversight and regulation in accordance with national, state and local laws and ordinances relating to consumer protection, building, fire and electrical codes, professional codes, safety, environmental protection, utility interconnection, metering and related matters. We also rely on certain of our dealers and third-party contractors to obtain and maintain permits and professional licenses, including as contractors, and other authorizations from various regulatory authorities and abide by their respective conditions and requirements in many of the jurisdictions in which we operate. A failure by us to obtain necessary permits or encounter delays in obtaining or renewing such permits or to use properly licensed dealers and third-party contractors could adversely affect our operations in those jurisdictions. Furthermore, we may become subject to similar regulatory requirements in some jurisdictions in which we operate. It is difficult and costly to track the requirements of every authority with jurisdiction over our operations and our solar energy systems. Separately, we are subject to regulations and potential liability under the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act related to the disposal of wastes generated in connection with our operations. Regulatory authorities may impose new government regulations or utility policies, change existing government regulations or utility policies, may seek expansive interpretations of existing regulations or policies pertaining to our services or solar energy systems and energy storage systems or may initiate associated investigations or enforcement actions or impose penalties or reject solar

energy systems and energy storage systems. Any of these factors may result in regulatory and/or civil litigation, significant additional expenses to us or our customers, cause delays in our or our dealers' ability to originate solar service agreement or install or interconnect solar energy systems and energy storage systems or cause other harm to our business. As a result, this could cause a significant reduction in demand for our services and solar energy systems and energy storage systems or otherwise adversely affect our business, financial condition and results of operations.

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

The installation and ongoing operations and maintenance of solar energy systems and energy storage systems requires individuals hired by us, our dealers or third-party contractors, potentially including our employees, to work at heights with complicated and potentially dangerous electrical systems. The evaluation and modification of buildings as part of the installation process requires these individuals to work in locations that may contain potentially dangerous levels of asbestos, lead, mold or other materials known or believed to be hazardous to human health. There is substantial risk of serious injury or death if proper safety procedures are not followed. Our operations are subject to regulation under OSHA, DOT regulations and equivalent state and local laws. Changes to OSHA or DOT requirements, or stricter interpretation or enforcement of existing laws or regulations, could result in increased costs. If we fail to comply with applicable OSHA or DOT regulations, even if no work-related serious injury or death occurs, we may be subject to civil or criminal enforcement and be required to pay substantial penalties, incur significant capital expenditures or suspend or limit operations. Because individuals hired by us or on our behalf to perform installation and ongoing operations and maintenance of our solar energy systems and energy storage systems, including our dealers and third-party contractors, are compensated on a per project basis, they are incentivized to work more quickly than installers compensated on an hourly basis. While we have not experienced a high level of injuries to date, this incentive structure may result in higher injury rates than others in the industry and could accordingly expose us to increased liability. Individuals hired by or on behalf of us may have workplace accidents and receive citations from OSHA regulators for alleged safety violations, resulting in fines. Any such accidents, citations, violations, injuries or failure to comply with industry best practices may subject us to adverse publicity, damage our reputation and competitive position and adversely affect our business.

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

Our business substantially focuses on solar service agreements and transactions with residential customers. We and our dealers must comply with numerous federal, state and local laws and regulations that govern matters relating to interactions with residential consumers, including those pertaining to consumer protection, marketing and sales, privacy and data security, consumer financial and credit transactions, mortgages and refinancings, home improvement contracts, warranties and various means of customer solicitation. These laws and regulations are dynamic and subject to potentially differing interpretations and various federal, state and local legislative and regulatory bodies may initiate investigations, expand current laws or regulations, or enact new laws and regulations regarding these matters. Changes in these laws or regulations or their interpretation could dramatically affect how we and our dealers do business, acquire customers and manage and use information collected from and about current and prospective customers and the costs associated therewith. We and our dealers strive to comply with all applicable laws and regulations relating to interactions with residential customers. It is possible, however, these requirements may be interpreted and applied in a manner inconsistent from one jurisdiction to another and may conflict with other rules or the practices of us or our dealers.

Although we require our dealers to meet our consumer compliance requirements and provide regular training to help them do so, we do not control our dealers and their suppliers or their business practices. Accordingly, we cannot guarantee they follow ethical business practices such as fair wage practices and compliance with environmental, safety and other local laws. A lack of demonstrated compliance could lead us to seek alternative dealers or suppliers, which could increase our costs and have a negative effect on our business and prospects for growth. Violation of labor or other laws by our dealers or suppliers or the divergence of a dealer or supplier's labor or other practices from those generally accepted as ethical in the U.S. or other markets in which we do or intend to do business could also attract negative publicity for us and harm our business.

Violations of anti-bribery, anti-corruption and/or international trade laws to which we are subject could have a material adverse effect on our business operations, financial position and results of operations.

We are subject to laws concerning our business operations and marketing activities in the U.S. and its territories where we conduct business. Further, we are subject to the U.S. Foreign Corrupt Practices Act, which generally prohibits companies and their intermediaries from making improper payments to non-U.S. government officials for the purpose of obtaining or retaining

business. We currently only operate in the U.S. and its territories. However, in the future we may conduct business outside of the U.S. and operate in parts of the world that experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. In addition, due to the level of regulation in our industry, our entry into new jurisdictions through internal growth or acquisitions requires substantial government contact where norms can differ from U.S. standards. Additionally, we regularly interact with domestic municipalities and municipal-owned centralized electric utilities. We will consider our interactions with these domestic governmental bodies when designing our policies and procedures and conducting training designed to facilitate compliance with domestic and international anti-bribery laws. Although we believe these policies and procedures will mitigate the risk of violations of such laws, our employees, dealers and agents may take actions in violation of our policies and anti-bribery laws. Any such violation, even if prohibited by our policies, could subject us to criminal or civil penalties or other sanctions, which could have a material adverse effect on our business, financial condition, cash flows and reputation.

Violations of export control and/or economic sanctions laws and regulations to which we are subject could have a material adverse effect on our business operations, financial position and results of operations.

Our products may be subject to export control regulations, including the Export Administration Regulations administered by the U.S. Department of Commerce's Bureau of Industry and Security. We are also subject to foreign assets control and economic sanctions regulations administered by the U.S. Department of the Treasury's Office of Foreign Assets Control, which restrict or prohibit our ability to transact with certain foreign countries, individuals and entities. We currently only operate in the U.S. and its territories. However, export control regulations may restrict our ability to exchange technical information with foreign manufacturers and suppliers and economic sanctions regulations may restrict our ability to source from certain suppliers. In addition, in the future we may conduct business outside of the U.S. We will consider these scenarios when designing our policies and procedures and conducting training designed to facilitate compliance with U.S. export control and economic sanctions laws and regulations. Although we believe these policies and procedures will mitigate the risk of violations of such laws, our employees, dealers and agents may take actions in violation of our policies or these laws. Any such violation, even if prohibited by our policies, could subject us to criminal or civil penalties or other sanctions, which could have a material adverse effect on our business, financial condition, cash flows and reputation.

Risks Related to Our Common Stock

We do not intend to pay, and our credit facilities currently prohibit us from paying, cash dividends on our common stock and, consequently, your only opportunity to achieve a return on your investment is if the price of our common stock appreciates.

We do not plan to declare dividends on shares of our common stock in the foreseeable future. Additionally, we are currently prohibited from making any cash dividends pursuant to the terms of certain of our credit facilities. Consequently, your only opportunity to achieve a return on your investment in us will be if you sell your common stock at a price greater than you paid for it. There is no guarantee the price of our common stock that will prevail in the market will ever exceed the price you paid for it.

The market price of our common stock could be materially adversely affected by sales of substantial amounts of our common stock in the public markets, including sales by entities affiliated with ECP and Newlight.

As of February 22, 2021, entities affiliated with ECP owned approximately 15.6% of our common stock and entities affiliated with Newlight, including QSIP LP, owned approximately 6.0% of our common stock. Sales by ECP, Newlight or other large stockholders or the perception that such sales might occur could have a material adverse effect on the price of our common stock or could impair our ability to obtain capital through an offering of equity securities.

The price of our common stock is volatile and may decline in value.

The market price of our common stock may be influenced by many factors, some of which are beyond our control, including:

- public reaction to our press releases, announcements and filings with the SEC;
- our operating and financial performance;
- fluctuations in broader securities market prices and volumes, particularly among securities of technology and solar companies;
- changes in market valuations of similar companies;
- departures of key personnel;

- commencement of or involvement in litigation;
- variations in our quarterly results of operations or those of other technology and solar companies;
- changes in general economic conditions, financial markets or the technology and solar industries;
- announcements by us or our competitors of significant acquisitions or other transactions;
- changes in accounting standards, policies, guidance, interpretations or principles;
- speculation in the press or investment community;
- actions by our stockholders;
- the failure of securities analysts to cover our common stock or changes in their recommendations and estimates of our financial performance;
- future sales of our common stock; and
- the other factors described in these "Risk Factors".

If securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinion regarding our common stock, our common stock price and trading volume could decline.

The trading market for our common stock is influenced by the research and reports that industry or securities analysts publish about us or our business. If one or more of the analysts currently covering our common stock ceases coverage of us, the trading price for our common stock would be negatively impacted. If any of the analysts who cover us issue an adverse or misleading opinion regarding us, our business model, our intellectual property or our common stock performance, or if our operating results fail to meet the expectations of analysts, our common stock price would likely decline. If one or more of these analysts cease coverage of us or fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our common stock price or trading volume to decline.

If we fail to comply with the reporting requirements under the Exchange Act or maintain adequate internal control over financial reporting in accordance with Section 404 of the Sarbanes-Oxley Act, it could result in late or non-compliant filings or inaccurate financial reporting and have a negative impact on the price of our common stock or our business.

Effective internal controls are necessary for us to provide timely, reliable financial reporting and prevent fraud. Our accounting predecessor was not a public company and was not required to comply with the reporting requirements of the Exchange Act, or with the standards adopted by the Public Company Accounting Oversight Board in compliance with the requirements of Section 404 of the Sarbanes-Oxley Act regarding internal controls over financial reporting. As a public company, we are required to report our financial results on the timeline and in the form prescribed by the Exchange Act and to evaluate and report on our internal control over financial reporting. This requires management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of internal control over financial reporting.

We are required to disclose material changes made in our internal controls and procedures on a quarterly basis and annually review and report on, and our independent registered public accounting firm must attest to, the effectiveness of our internal control over financial reporting pursuant to Section 404 of the Sarbanes-Oxley Act. Material weaknesses and significant deficiencies may exist when we report on the effectiveness of our internal control over financial reporting as required by reporting requirements under Section 404 of the Sarbanes-Oxley Act of 2002, or the Sarbanes-Oxley Act.

The process of documenting and further developing our internal controls to become compliant with Section 404 has taken a significant amount of time and effort to complete and required significant attention of management. We are continuing to improve our internal controls over financial reporting. We have expended, and anticipate we will continue to expend, significant resources in order to maintain and enhance existing effective disclosure controls and procedures and internal controls over financial reporting. Our current controls and any new controls we develop may become inadequate because of changes in conditions in our business. We may experience higher than anticipated operating expenses, as well as increased independent auditor and other fees and expenses during the implementation of these changes and thereafter.

Certain of our directors have significant duties with, and spend significant time serving, entities that may compete with us in seeking business opportunities and, accordingly, may have conflicts of interest in allocating time or pursuing business opportunities.

Certain of our directors, who are responsible for managing the direction of our operations and acquisition activities, hold positions of responsibility with other entities whose businesses are similar to our business. The existing positions held by these directors may give rise to fiduciary or other duties in conflict with the duties they owe to us. These directors may become aware of business opportunities that may be appropriate for presentation to us as well as to the other entities with which they are or may become affiliated. Due to these existing and potential future affiliations, they may present potential business opportunities

to other entities prior to presenting them to us, which could cause additional conflicts of interest. They may also decide certain opportunities are more appropriate for other entities with which they are affiliated and as a result, they may elect not to present those opportunities to us. These conflicts may not be resolved in our favor.

Conflicts of interest could arise in the future between us, on the one hand, and any of our stockholders and its affiliates and affiliated funds and its and their current and future portfolio companies on the other hand, concerning, among other things, potential competitive business activities or business opportunities.

Conflicts of interest could arise in the future between us, on the one hand, and any of our stockholders and its affiliates and affiliated funds and its and their current and future portfolio companies, on the other hand, concerning, among other things, potential competitive business activities or business opportunities. For example, certain of our existing investors and their affiliated funds may invest in companies that operate in the traditional energy industry and solar and other renewable industries. As a result, our existing investors and their affiliates' and affiliated funds' current and future portfolio companies they control may now, or in the future, directly or indirectly, compete with us for investment or business opportunities.

Our governing documents provide that our stockholders and their affiliates and affiliated funds are not restricted from owning assets or engaging in businesses that compete directly or indirectly with us and will not have any duty to refrain from engaging, directly or indirectly, in the same or similar business activities or lines of business as us, including those business activities or lines of business deemed to be competing with us, or doing business with any of our clients, customers or vendors. In particular, subject to the limitations of applicable law, our certificate of incorporation, among other things:

- permits stockholders or their affiliates and affiliated funds and our non-employee directors to conduct business that competes with us and to make investments in any kind of property in which we may make investments; and
- provides that if any of our stockholders or any of its affiliates who is also one of our non-employee directors becomes aware of a potential business opportunity, transaction or other matter, they will have no duty to communicate or offer that opportunity to us.

Our stockholders or their affiliates or affiliated funds may become aware, from time to time, of certain business opportunities (such as acquisition opportunities) and may direct such opportunities to other businesses in which they have invested, in which case we may not become aware of or otherwise have the ability to pursue such opportunity. Further, such businesses may choose to compete with us for these opportunities, possibly causing these opportunities to not be available to us or causing them to be more expensive for us to pursue. In addition, our stockholders or their affiliates and affiliated funds may dispose of their interests in energy infrastructure or other renewable companies or other assets in the future, without any obligation to offer us the opportunity to purchase any of those assets. As a result, our renouncing our interest and expectancy in any business opportunity that may be from time to time presented to any of our stockholders or their affiliates and affiliated funds could adversely impact our business or prospects if attractive business opportunities are procured by such parties for their own benefit rather than for ours.

In any of these matters, the interests of our existing stockholders and their affiliates and affiliated funds may differ or conflict with the interests of our other shareholders. Any actual or perceived conflicts of interest with respect to the foregoing could have an adverse impact on the trading price of our common stock.

Ownership of our common stock by current stockholders is expected to remain significant.

Due to their ownership percentages, certain key stockholders may have the ability to exercise significant influence over matters submitted to our stockholders for approval. This concentration of ownership may also have the effect of delaying or preventing a change of control of our company or discouraging others from making tender offers for our shares, which could prevent our stockholders from receiving an offer premium for their shares.

So long as the key stockholders continue to own a significant amount of our common stock, they will continue to be able to strongly influence all matters requiring stockholder approval, regardless of whether or not other stockholders believe a potential transaction is in their own best interests. In any of these matters, the interests of the key stockholders may differ or conflict with the interests of our other stockholders. In addition, certain of the key stockholders may, from time to time, acquire interests in businesses that directly or indirectly compete with our business, as well as businesses that are significant existing or potential customers. Certain of the key stockholders may acquire or seek to acquire assets we seek to acquire and, as a result, those acquisition opportunities may not be available to us or may be more expensive for us to pursue.

Provisions of our charter documents and Delaware law may inhibit a takeover, which could limit the price investors might be willing to pay in the future for our common stock.

Our charter documents authorize our board of directors to issue preferred stock without stockholder approval and, relatedly, may have the effect of delaying or preventing an acquisition of us or a merger in which we are not the surviving company and may otherwise prevent or slow changes in our board of directors and management. In addition, some provisions of our certificate of incorporation, amended and restated bylaws and stockholders' agreement could make it more difficult for a third party to acquire control of us, even if the change of control would be beneficial to our stockholders, including:

- limitations on changes of control and business combinations;
- limitations on the removal of directors;
- limitations on the ability of our stockholders to call special meetings;
- establishing advance notice provisions for stockholder proposals and nominations for elections to the board of directors to be acted upon at meetings of stockholders;
- providing that the board of directors is expressly authorized to adopt, or to alter or repeal our bylaws; and
- establishing advance notice and certain information requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at stockholder meetings.

These provisions could discourage an acquisition of us or other change in control transactions and thereby negatively affect the price that investors might be willing to pay in the future for our common stock.

Our amended and restated certificate of incorporation designates the Court of Chancery of the State of Delaware and, to the extent enforceable, the federal district courts of the United States of America as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, employees or agents.

Our amended and restated certificate of organization provides that, unless we consent in writing to the selection of an alternative forum, the sole and exclusive forum for (a) any derivative action or proceeding brought on our or our stockholders' behalf, (b) any action asserting a claim of breach of a fiduciary duty owed by any of our current or former directors, officers, employees, agents and stockholders to us or our stockholders, (c) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, our amended and restated certificate of incorporation or our amended and restated bylaws, (d) any action as to which the Delaware General Corporation Law confers jurisdiction to the Court of Chancery of the State of Delaware, or (e) any other action asserting a claim that is governed by the internal affairs doctrine shall be the Court of Chancery of the State of Delaware. Our amended and restated certificate of incorporation also provides that, to the fullest extent permitted by applicable law, the federal district courts of the United States are the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act, subject to and contingent upon a final adjudication in the State of Delaware of the enforceability of such exclusive forum provision.

Notwithstanding the foregoing, the exclusive forum provision does not apply to suits brought to enforce any liability or duty created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Any person or entity purchasing or otherwise acquiring an interest in any shares of our capital stock shall be deemed to have notice of and to have consented to the forum provisions in our amended and restated certificate of incorporation. These choice-of-forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that he, she or it believes to be favorable for disputes with us or our directors, officers or other employees, which may discourage such lawsuits. Alternatively, if a court were to find these provisions of our amended and restated certificate of incorporation inapplicable or unenforceable with respect to one or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could materially adversely affect our business, financial condition and results of operations and result in a diversion of the time and resources of our management and board of directors. For example, the Court of Chancery of the State of Delaware recently determined a provision stating that U.S. federal district courts are the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act is not enforceable.

Future sales of our common stock in the public market, or the perception that such sales may occur, could reduce our stock price, and any additional capital raised by us through the sale of equity or convertible securities may dilute your ownership in us.

We may raise additional capital through the issuance of equity or debt in the future. In that event, the ownership of our existing stockholders would be diluted and the value of the stockholders' equity in common stock could be reduced. If we raise more equity capital from the sale of common stock, institutional or other investors may negotiate terms more favorable than the current prices of our common stock. If we issue debt securities, the holders of the debt would have a claim to our assets that

would be prior to the rights of stockholders until the debt is paid. Interest on these debt securities would increase costs and could negatively impact operating results.

In accordance with Delaware law and the provisions of our charter documents, we may issue preferred stock that ranks senior in right of dividends, liquidation or voting to our common stock. The issuance by us of such preferred stock may (a) reduce or eliminate the amount of cash available for payment of dividends to our holders of common stock, (b) diminish the relative voting strength of the total shares of common stock outstanding as a class, or (c) subordinate the claims of our holders of common stock to our assets in the event of our liquidation. Our amended and restated Certificate of Incorporation does not provide stockholders the pre-emptive right to buy shares from us. As a result, stockholders will not have the automatic ability to avoid dilution in their percentage ownership of us.

We cannot predict the size of future issuances of our common stock or securities convertible into common stock or the effect, if any, that future issuances and sales of shares of our common stock will have on the market price of our common stock. Sales of substantial amounts of our common stock (including shares issued in connection with an acquisition), or the perception that such sales could occur, may adversely affect prevailing market prices of our common stock.

Risks Related to Taxation

Our ability to use NOLs and tax credit carryforwards to offset future income taxes is subject to limitation and the amount of such carryforwards may be subject to challenge or reduction.

As of December 31, 2020, we had approximately $1.2 billion of U.S. federal NOLs, a portion of which will begin to expire in 2032 and approximately $267.5 million of U.S. federal tax credit carryforwards, which begin to expire in 2033. Utilization of our NOLs and tax credit carryforwards depends on many factors, including having current or future taxable income, which cannot be assured. In addition, Section 382 of the Code generally imposes an annual limitation on the amount of NOLs that may be used to offset taxable income by a corporation that has undergone an "ownership change" (as determined under Section 382). An ownership change generally occurs if one or more stockholders (or groups of stockholders, including one or more groups of public stockholders) that are each deemed to own at least 5% of our stock increase their ownership percentage by more than 50 percentage points over their lowest ownership percentage during a rolling three-year period. Similar rules under Section 383 of the Code impose an annual limitation on the amount of tax credit carryforwards, including carryforwards of Section 48(a) ITCs, that may be used to offset U.S. federal income taxes.

We experienced an "ownership change" in August 2020 as defined by Sections 382 and 383 of the Code, which limits our future ability to utilize NOLs and tax credits generated before the "ownership change". While we are presently evaluating the impact of Sections 382 and 383 on our deferred tax assets as a result of the aforementioned "ownership change", we maintain a full valuation allowance to reduce our deferred tax assets to the amount expected to be realized. Another "ownership change" could occur as a result of transactions that increase the ownership percentage of any of our 5% stockholders during a rolling three-year period, including redemptions of our stock, sales of our stock by other deemed 5% stockholders or issuances of stock by us, whether in additional public offerings or otherwise. If such another ownership change occurs, our ability to utilize NOLs and tax credit carryforwards may be subject to further limitation under Sections 382 and 383 of the Code. The application of the aforementioned limitations may cause U.S. federal income taxes to be paid by us earlier than they otherwise would be paid if such limitations were not in effect and could cause such NOLs and tax credit carryforwards to expire unused, in each case reducing or eliminating the benefit of such NOLs and tax credit carryforwards. To the extent we are not able to offset our future taxable income with our NOLs or offset future taxes with our tax credit carryforwards, this would adversely affect our operating results and cash flows if we have taxable income in the future. These same risks can arise in the context of state income and franchise tax given many states conform to federal law and rely on federal authority for determining state NOLs.

Furthermore, the IRS or other tax authorities could successfully challenge one or more tax positions we take, such as the classification of assets under the income tax depreciation rules or the characterization of expenses for income tax purposes, which could reduce the NOLs we generate and/or are able to use.

Our tax positions are subject to challenge by the relevant tax authority.

Our federal and state tax positions may be challenged by the relevant tax authority. The process and costs, including potential penalties for nonpayment of disputed amounts, of contesting such challenges, administratively or judicially, regardless of the merits, could be material. Future tax audits or challenges by tax authorities to our tax positions may result in a material increase in our estimated future income tax or other tax liabilities, which would negatively impact our financial condition.

For example, many of our solar energy systems are located in states or territories that exempt such assets from state, territorial and local sales and property taxes. We believe these solar energy systems are and should continue to be exempt from certain state, territorial and local sales and property taxes; however, some of our solar energy systems are located in certain jurisdictions where the applicability of these exemptions to solar energy systems is the subject of ongoing litigation and possible legislative change or else the jurisdiction's law is uncertain regarding the effect on property and sales tax exemptions of certain complex business reorganizations undergone by us and our subsidiaries. As such, some tax authorities could challenge the availability of these exemptions. If our solar energy systems are determined to be subject to state, territorial or local sales or property taxes, it could negatively impact our financial condition.

Changes in tax law could adversely affect our business.

U.S. tax law is always subject to change. Potential changes to the Code include changes to the U.S. corporate income tax rate and provisions limiting or eliminating various deductions, credits or tax preferences. Interpretations of the Code and regulations promulgated by the IRS are likewise subject to change. As states elect to conform (or else have rolling conformity) to the Code, such interpretations and regulations (including those promulgated by state authorities) could likewise affect our state income and franchise tax obligations. Any future changes in tax law, including changes to U.S. federal, state, territorial or local tax law, could affect our tax position and adversely impact our business.

If the IRS or the U.S. Treasury Department makes a determination that the fair market value of our solar energy systems is materially lower than what we have reported in our tax equity vehicles' tax returns, we may have to pay significant amounts to our tax equity vehicles, our tax equity investors and/or the U.S. government. Such determinations could have a material adverse effect on our business and financial condition.

The basis of our solar energy systems we report in our tax equity vehicles' tax returns to claim the Section 48(a) ITC is based on the appraised fair market value of our solar energy systems. The IRS continues to scrutinize fair market value determinations industry-wide. We are not aware of any IRS audits or results of audits related to our appraisals or fair market value determinations of any of our tax equity vehicles. If as part of an examination the IRS were to review the fair market value we used to establish our basis for claiming Section 48(a) ITCs and successfully assert the Section 48(a) ITCs previously claimed should be reduced, we would owe certain of our tax equity vehicles or our tax equity investors an amount equal to 30% of each investor's share of the difference between the fair market value used to establish our basis for claiming Section 48(a) ITCs and the adjusted fair market value determined by the IRS, plus any costs and expenses associated with a challenge to that fair market value, plus a gross up to pay for additional taxes. We could also be subject to tax liabilities, including interest and penalties, based on our share of claimed Section 48(a) ITCs. To date, we have not been required to make such payments under any of our tax equity vehicles. We have obtained insurance coverage with respect to certain losses that may be incurred should the Section 48(a) ITCs previously claimed with respect to our tax equity vehicles be reduced. Any such losses could be outside the scope of these insurance policies or exceed insurance policy limits and we could incur unforeseen costs that could harm our business and financial condition.

If our solar energy systems either cease to be qualifying property or undergo certain changes in ownership within five years of the applicable placed in service date, we may have to pay significant amounts to our tax equity vehicles, our tax equity investors and/or the U.S. government. Such recapture could have a material adverse effect on our business and financial condition.

The Section 48(a) ITCs are subject to recapture under the Code if a solar energy system either ceases to be qualifying property or undergoes certain changes in ownership within five years of its placed in service date. The amount of Section 48(a) ITCs subject to recapture decreases by 20% of the claimed amount on each anniversary of a solar energy system's placed in service date. If such a recapture event were to occur, we could owe certain of our tax equity vehicles or our tax equity investors an amount equal to such vehicles' or investors' share of the Section 48(a) ITCs that were recaptured. We could also be subject to tax liabilities, including interest and penalties, based on our share of recaptured Section 48(a) ITCs. Any such recapture could have a material adverse effect on our business and financial condition.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

Our corporate headquarters is in Houston, Texas, where we occupy approximately 71,700 square feet of office space pursuant to an operating lease that expires in July 2029. We lease additional offices in Guam, New York and Puerto Rico but do

not own any real property. We intend to procure additional space in the future as we continue to add employees and expand geographically. We believe our facilities are adequate and suitable for our current needs and, should it be needed, suitable additional or alternative space will be available to accommodate our operations.

Item 3. Legal Proceedings.

Although we may, from time to time, be involved in litigation, claims and government proceedings arising in the ordinary course of business, we are not a party to any litigation or governmental or other proceeding we believe will have a material adverse impact on our financial position, results of operations or liquidity. In the ordinary course of business, we have disputes with dealers and customers. In general, litigation claims or regulatory proceedings can be expensive and time consuming to bring or defend against, may result in the diversion of management attention and resources from our business and business goals and could result in settlement or damages that could significantly affect financial results and the conduct of our business.

Item 4. Mine Safety Disclosures.

Not applicable.

PART II - OTHER INFORMATION

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchase of Equity Securities

Market Information

Our common stock began trading on the NYSE under the symbol "NOVA" on July 25, 2019.

Holders

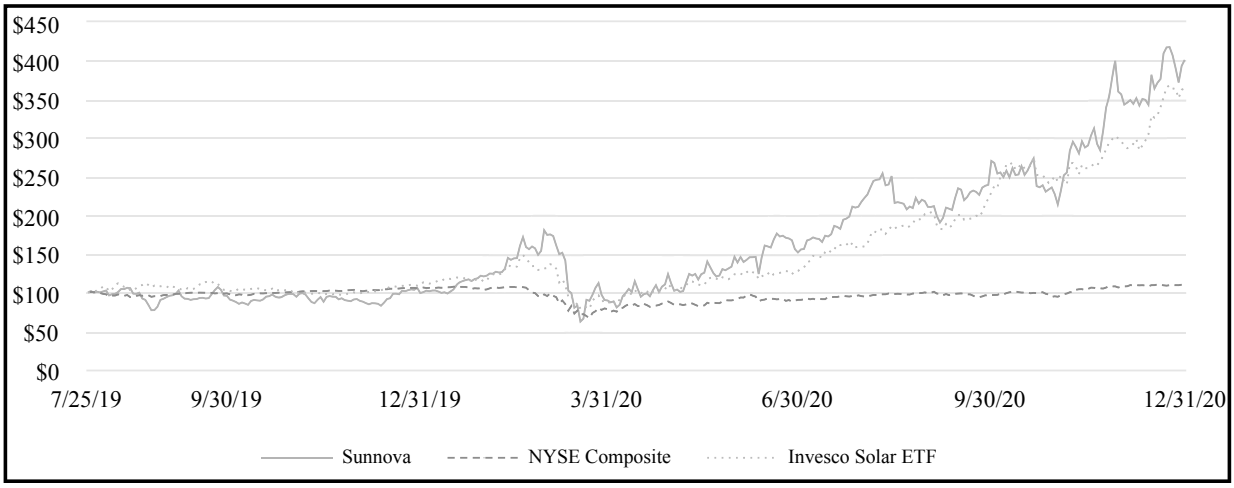
As of February 22, 2021, there were approximately 32 holders of record of our common stock. Certain shares are held in "street" name and, accordingly, the number of beneficial owners of such shares is not known or included in the foregoing number.

Dividends

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not expect to pay any dividends on our capital stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our Board, subject to applicable laws, and will depend on a number of factors, including our financial condition, results of operations, capital requirements, contractual restrictions, general business conditions and other factors our Board may deem relevant. In addition, the terms of our credit agreements and indentures contain restrictions on the payment of dividends and we may also enter into other credit agreements, indentures or other borrowing arrangements in the future that will restrict our ability to declare or pay cash dividends on our capital stock.

Performance Graph

The following stock performance graph compares our total stock return with the total return for (a) the NYSE Composite Index and the (b) the Invesco Solar ETF, which represents a peer group of solar companies, for the period from July 25, 2019 (the date our common stock commenced trading on the NYSE) through December 31, 2020. The figures represented below assume an investment of $100 in our common stock at the closing price of $11.25 on July 25, 2019 and in the NYSE Composite Index and the Invesco Solar ETF on July 25, 2019, including the reinvestment of dividends into shares of common stock. The comparisons in the table are required by the SEC and are not intended to forecast or be indicative of possible future performance of our common stock. This graph shall not be deemed "soliciting material" or be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities under that section, and shall not be deemed to be incorporated by reference into any of our filings under the Securities Act, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.



Item 6. Selected Financial Data.

The following selected consolidated financial data should be read in conjunction with "*Management's Discussion and Analysis of Financial Condition and Results of Operations"* and the consolidated financial statements, related notes and other information included elsewhere in this Annual Report on Form 10-K. The selected consolidated statements of operations data for the years ended December 31, 2020, 2019 and 2018, and the selected consolidated balance sheet data as of December 31, 2020 and 2019 are derived from our audited consolidated financial statements included elsewhere in this Annual Report on Form 10-K. The selected consolidated statements of operations data for the year ended December 31, 2017 and the selected consolidated balance sheet data as of December 31, 2018 and 2017 are derived from audited consolidated financial statements not included in this Annual Report on Form 10-K. Our historical results are not necessarily indicative of our future results. The selected consolidated financial data in this section are not intended to replace, and are qualified in their entirety, by the consolidated financial statements and related notes thereto included elsewhere in this Annual Report on Form 10-K.

	Year Ended December 31,			
	2020	2019	2018	2017
	(in thousands, except share and per share amounts)			
Consolidated Statement of Operations Data:				
Revenue	$ 160,820	$ 131,556	$ 104,382	$ 76,856
Net loss	$ (307,818)	$ (133,434)	$ (68,409)	$ (90,182)
Net loss attributable to common stockholders—basic and diluted	$ (252,284)	$ (169,076)	$ (135,872)	$ (121,288)
Net loss per share attributable to common stockholders—basic and diluted	$ (2.87)	$ (4.14)	$ (15.74)	$ (14.05)
Weighted average common shares outstanding—basic and diluted	87,871,457	40,797,976	8,634,477	8,632,936

	As of December 31,			
	2020	2019	2018	2017
	(in thousands)			
Consolidated Balance Sheet Data:				
Cash and restricted cash	$ 377,893	$ 150,291	$ 87,046	$ 81,778
Property and equipment, net	$ 2,323,169	$ 1,745,060	$ 1,328,457	$ 1,113,073
Total assets	$ 3,587,582	$ 2,487,067	$ 1,665,085	$ 1,328,788
Current portion of long-term debt	$ 110,883	$ 97,464	$ 26,965	$ 25,837
Current portion of long-term debt—affiliates	$ —	$ —	$ 16,500	$ 81,791
Long-term debt, net	$ 1,924,653	$ 1,346,419	$ 872,249	$ 723,697
Long-term debt, net—affiliates	$ —	$ —	$ 44,181	$ —
Total equity	$ 1,144,557	$ 691,111	$ 501,118	$ 371,183

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis contain forward-looking statements that are subject to risks, uncertainties and assumptions. Our actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of many factors, including but not limited to those discussed under "Special Note Regarding Forward-Looking Statements", "Risk Factors" and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment and new risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. In light of these risks, uncertainties and assumptions, the forward-looking events and circumstances discussed in this Annual Report on Form 10-K may not occur and actual results could differ materially and adversely from those anticipated or implied in the forward-looking statements.

Company Overview

We are a leading residential solar and energy storage service provider, serving over 107,000 customers in more than 20 U.S. states and territories. Our goal is to be the leading provider of clean, affordable and reliable energy for consumers, and we operate with a simple mission: to power energy independence so homeowners have the freedom to live life uninterrupted. We were founded to deliver customers a better energy service at a better price; and, through our solar and solar plus energy storage service offerings, we are disrupting the traditional energy landscape and the way the 21st century customer generates and consumes electricity.

We have a differentiated residential solar dealer model in which we partner with local dealers who originate, design and install our customers' solar energy systems and energy storage systems on our behalf. Our focus on our dealer model enables us to leverage our dealers' specialized knowledge, connections and experience in local markets to drive customer origination while providing our dealers with access to high quality products at competitive prices, as well as technical oversight and expertise. We believe this structure provides operational flexibility, reduces exposure to labor shortages and lowers fixed costs relative to our peers, furthering our competitive advantage.

We offer customers products to power their homes with affordable solar energy. We are able to offer savings compared to utility-based retail rates with little to no up-front expense to the customer in conjunction with solar and solar plus energy storage, and in the case of the latter are able to also provide energy resiliency. We also make it possible in some states for a customer to obtain a new roof and other ancillary products as part of their solar loan. Our solar service agreements take the form of a lease, PPA or loan. The initial term of our solar service agreements is typically 10, 15 or 25 years. Service is an integral part of our agreements and includes operations and maintenance, monitoring, repairs and replacements, equipment upgrades, on-site power optimization for the customer (for both supply and demand), the ability to efficiently switch power sources among the solar panel, grid and energy storage system, as appropriate, and diagnostics. During the life of the contract we have the opportunity to integrate related and evolving home servicing and monitoring technologies to upgrade the flexibility and reduce the cost of our customers' energy supply.

In the case of leases and PPAs, we also currently receive tax benefits and other incentives from federal, state and local governments, a portion of which we finance through tax equity, non-recourse debt structures and hedging arrangements in order to fund our upfront costs, overhead and growth investments. We have an established track record of attracting capital from diverse sources. From our inception through December 31, 2020, we have raised more than $6.7 billion in total capital commitments from equity, debt and tax equity investors.

In addition to providing ongoing service as a standard component of our solar service agreements, we also offer ongoing energy services to customers who purchased their solar energy system through third parties. Under these arrangements, we agree to provide monitoring, maintenance and repair services to these customers for the life of the service contract they sign with us. We believe the quality and scope of our comprehensive energy service offerings, whether to customers that obtained their solar energy system through us or through another party, is a key differentiator between us and our competitors.

We commenced operations in January 2013 and began providing solar energy services under our first solar energy system in April 2013. Since then, our brand, innovation and focused execution have driven significant, rapid growth in our market share and in the number of customers on our platform. We operate one of the largest fleets of residential solar energy systems in the U.S., comprising more than 790 megawatts of generation capacity and serving over 107,000 customers.

Recent Developments

Acquisition of SunStreet

In February 2021, we entered into a Merger Agreement with certain of our subsidiaries, SunStreet and Len[x]. Pursuant to the Merger Agreement, we will acquire SunStreet, Lennar Corporation's residential solar platform, in exchange for up to 7,222,229 shares of our common stock, comprised of 3,333,333 shares in initial consideration to be issued at closing, subject to purchase price adjustment, and up to 3,888,896 shares issuable as earnout consideration after closing of the Acquisition. The Acquisition is expected to provide a new strategic path to further scale our business and develop clean and resilient residential microgrids across the U.S.

The completion of the Acquisition is subject to, among other customary mutual conditions, our entry into (a) a transition services agreement, (b) a stockholders agreement, which will provide for certain registration rights and standstill provisions, (c) a master management and services agreement with an affiliate of Lennar Corporation, which will provide for SunStreet's continued provision of operating, maintenance and servicing services for solar service agreements of Lennar Corporation customers, (d) an exclusivity agreement with Lennar Corporation and (e) initial tax equity fund documents. The Merger Agreement contains termination rights if, among other things, the Acquisition does not close on or before September 1, 2021. The Acquisition is expected to close in the second quarter of 2021. See "*Item 1A. Risk Factors*" for discussion of risks related to the Acquisition.

Earnout Agreement

Pursuant to the Earnout Agreement entered into between us and Len[x], Len[x] will have the ability to earn up to 3,888,896 additional shares of common stock over a five-year period in connection with the Acquisition. The earnout payments are conditioned on SunStreet meeting certain commercial milestones tied to achieving specified origination targets. There are two elements to the earnout arrangement. First, we will issue up to 2,777,784 shares if we and our subsidiaries (including SunStreet) place target amounts of solar energy systems into service and enter into qualifying customer agreements related to such solar energy systems through SunStreet's existing homebuilding process. The 2,777,784 shares of common stock issuable under this prong of the earnout can be earned in four installments on a yearly basis (if the origination target for each such year is achieved) or at the end of the four-year period (if the aggregate origination target is achieved in the fourth and final year), with the annual periods commencing on the closing date of the Acquisition. The second element of the earnout is related to the development of microgrid communities. Pursuant to this portion of the earnout, we will issue up to 1,111,112 shares if, prior to the fifth anniversary of the closing date of the Acquisition, we enter into binding agreements for the development of microgrid communities.

Exclusivity Agreement

In connection with the Acquisition, we will become Lennar Corporation's exclusive residential solar and storage service provider for new home communities with solar across the U.S. for a period of four years. Under the exclusivity agreement, Lennar Corporation will agree to exclusively use us or our subsidiaries as its solar and storage service provider. In addition, through the exclusivity agreement we will have the opportunity to leverage Lennar Corporation's existing customer relationships to offer solar service agreements to those customers without an existing solar energy system. Lennar Corporation will retain the ability to terminate the exclusivity agreement if we fail to maintain certain specified performance obligations on a regular basis, including the failure to timely install solar and storage equipment across its new home communities. We are also required to offer competitive prices to Lennar Corporation's homebuyers and incentives to Lennar Corporation.

Tax Equity Commitment

In connection with the Acquisition, Lennar Corporation has committed to contribute an aggregate $200.0 million to four Sunnova tax equity funds, each formed annually during a period of four consecutive years commencing in 2021. The solar service agreements and related solar energy systems acquired by each of these four tax equity funds will generally be originated by SunStreet, though a certain number of solar service agreements may be originated by our dealers if those originated by SunStreet do not fully utilize Lennar Corporation's Funding Commitment for a given Contribution Year. Any amount not utilized during the first and second Contribution Years will increase the Funding Commitment during the third Contribution Year by that amount, and any amount not utilized during the third Contribution Year will increase the Funding Commitment during the fourth Contribution Year by that amount. In connection with the Funding Commitment, each of the tax equity funds will enter into typical tax equity fund transaction documentation, including development and purchase agreements, servicing agreements and limited liability company agreements.

COVID-19 Pandemic

The ongoing COVID-19 pandemic has resulted and may continue to result in widespread adverse impacts on the global economy. Our first priority in our response to this pandemic has been the health and safety of our employees, customers and dealers. To that end, we quickly implemented preventative measures to minimize unnecessary risk of exposure, which we have continued to follow. We have experienced some resulting disruptions to our business operations as the COVID-19 pandemic has continued to spread through the states and U.S. territories in which we operate.

Social distancing guidelines, stay-at-home orders and similar government measures associated with the COVID-19 pandemic, as well as actions by individuals to reduce their potential exposure to the virus, contributed to a decline in origination, with new contract origination, net of cancelations, declining in each of March and April 2020 from the previous month. This decline reflected an inability by our dealers to perform in-person sales calls based on the stay-at-home orders in some locations. To adjust to these government measures, our dealers expanded the use of digital tools and origination channels and created new methods that offset restrictions on their ability to meet with potential new customers in person. Such efforts drove an increase in new contract origination, net of cancelations, in May through November 2020, with each of the months from June 2020 to November 2020 exceeding the number of new contracts originated, net of cancelations, in February 2020. We have seen the use of websites, video conferencing and other virtual tools as part of our origination process expand widely and contribute to our growth. However, local, state or federal government extensions of COVID-19 pandemic response measures may further disrupt the return to in-person sales, which may have a material adverse effect on our business, cash flows, liquidity, financial condition and results of operations due to an inability by our dealers to adjust to virtual sales methods or because such methods prove to be less successful with potential customers.

The service and installation of solar energy systems has continued during the COVID-19 pandemic. This reflects residential solar services' designation as an essential service in all of our service territories. In order to adhere to all applicable state and federal health and safety guidelines, we and our dealers have moved to a contact-free process for installers and service technicians. In addition, an increasing number of jurisdictional authorities, as well as local utilities, are accepting electronic submissions for permits, and inspections are being performed in many locations through video calls and other electronic means. We expect our dealers' ability to install and our ability to service solar energy systems will continue in this manner. However, if there are additional outbreaks of the COVID-19 virus or more stringent health and safety guidelines are adopted, our and our dealers' ability to continue performing installations and service calls may be adversely impacted.

Throughout the COVID-19 pandemic, we have seen minimal impact to our supply chain as our technicians and dealers have largely been able to successfully procure the equipment needed to service and install solar energy systems. We have established a geographically diverse group of suppliers, which helps ensure our dealers and customers have access to affordable and effective solar energy and storage options despite potential trade, geopolitical or event-driven risks. Further, we implemented a strategy in 2019, as a result of which the equipment necessary to install and service a significant majority of solar energy systems for the duration of 2021 is already available to us. Currently, we do not anticipate an inability to source parts for our solar energy systems or energy storage systems. However, if supply chains become significantly disrupted due to additional outbreaks of the COVID-19 virus or more stringent health and safety guidelines are implemented, our ability to install and service solar energy systems could become adversely impacted.

As part of our preventative measures to minimize unnecessary risk of exposure and prevent infection, we have continued our work-from-home policy for employees in our Houston headquarters. In May 2020, we re-established critical operations that rely on infrastructure available at headquarters. All employees are required to follow strict social distancing and health safety guidelines in conformity with the restrictions and best practices encouraged by the Centers for Disease Control and Prevention, the World Health Organization and other governmental and regulatory authorities. Throughout the COVID-19 pandemic, our call center has remained open and properly staffed to meet our customers' needs. If a customer requires a visit from a service technician, those technicians are available and in almost all cases can complete the service without entering the customer's home. We are continuing to address concerns to protect the health and safety of our employees and those of our customers and dealers, and this includes changes to comply with health-related guidelines as they are modified and supplemented.

There is considerable uncertainty regarding the extent and duration of governmental and other measures implemented to try to slow the spread of the COVID-19 virus, such as large-scale travel bans and restrictions, border closures, quarantines, shelter-in-place orders and business and government shutdowns. Some states that had begun taking steps to reopen their economies experienced a subsequent surge in cases of COVID-19, causing these states to cease such reopening measures in some cases and reinstitute restrictions in others. Restrictions of this nature have caused, and may continue to cause, us and our dealers to experience operational delays and may cause milestones or deadlines relating to our exclusivity arrangements to be missed. To date, we have not received notices from our dealers regarding performance delays resulting from the COVID-19 pandemic. However, worsening economic conditions could result in such outcomes over time, which would impact our future financial

performance. Further, the effects of the economic downturn associated with the COVID-19 pandemic may increase unemployment and reduce consumer credit ratings and credit availability, which may adversely affect new customer origination and our existing customers' ability to make payments on their solar service agreements. Periods of high unemployment and a lack of availability of credit may lead to increased delinquency and default rates. We have not experienced a significant increase in default or delinquency rates to date. However, if existing economic conditions continue for a prolonged period of time or worsen, delinquencies on solar service agreements could increase, which would also negatively impact our future financial performance.

As of the date of this report, our responses to the challenges presented by the conditions described above to minimize the impacts to our business have yielded encouraging results. However, our future success also depends on our ability to raise capital from third-party investors and commercial sources. In the initial weeks of the COVID-19 pandemic we saw access to capital markets reduced generally. Although the capital markets have not returned to full strength, we have since been able to raise funding during this challenging time. During 2020, we closed five tax equity funds, closed three securitizations, expanded capacity under one of our existing credit facilities, closed one additional credit facility, raised additional equity capital and continue to have access to capacity under certain of our existing tax equity funds and warehouse facilities. If we are unable to regain access to the capital markets or are unable to raise funds through our tax equity and warehouse financing transactions at competitive terms, it would adversely impact our ability to finance the deployment of our solar energy systems and energy storage systems and our future financial performance.

We cannot predict the full impact the COVID-19 pandemic or the significant disruption and volatility currently being experienced in the capital markets will have on our business, cash flows, liquidity, financial condition and results of operations at this time due to numerous uncertainties. The ultimate impact will depend on future developments, including, among other things, the ultimate duration of the COVID-19 virus, the distribution, acceptance and efficacy of the vaccine, the depth and duration of the economic downturn and other economic effects of the COVID-19 pandemic, the consequences of governmental and other measures designed to prevent the spread of the COVID-19 virus, actions taken by governmental authorities, customers, suppliers, dealers and other third parties, our ability and the ability of our customers, potential customers and dealers to adapt to operating in a changed environment and the timing and extent to which normal economic and operating conditions resume. For additional discussion regarding risks associated with the COVID-19 pandemic, see "*Risk Factors*" elsewhere in this Annual Report on Form 10-K.

Financing Transactions

In November 2020, we admitted a tax equity investor with a total capital commitment of $100.0 million. In December 2020, we increased the total capital commitment from an existing tax equity investor from $75.0 million to $155.0 million. See "*—Liquidity and Capital Resources—Financing Arrangements—Tax Equity Fund Commitments*" below.

In October 2020, we amended the revolving credit facility associated with one of our financing subsidiaries that owns certain tax equity funds to, among other things, increase the aggregate commitment amount from $437.5 million to $460.7 million and increase the maximum commitment amount from $437.5 million to $600.0 million. In January 2021, this revolving credit facility was further amended to, among other things, (a) permit certain transactions in SRECs (or proceeds therefrom) and related hedging arrangements and exclude certain of such amounts from the calculation of net cash flow available to service the indebtedness and (b) allow for borrowings with respect to certain ancillary components. See "*—Liquidity and Capital Resources—Financing Arrangements—Warehouse and Other Debt Financings*" below.

In November 2020, one of our subsidiaries issued $209.1 million in aggregate principal amount of Series 2020-2 Class A solar asset-backed notes and $45.6 million in aggregate principal amount of Series 2020-2 Class B solar asset-backed notes (collectively, the "SOLII Notes") with a maturity date of November 2055. The SOLII Notes bear interest at an annual rate of 2.73% and 5.47% for the Class A and Class B notes, respectively. In February 2021, one of our subsidiaries issued $150.1 million in aggregate principal amount of Series 2021-A Class A solar loan-backed notes and $38.6 million in aggregate principal amount of Series 2021-A Class B solar loan-backed notes (collectively, the "HELV Notes") with a maturity date of February 2048. The HELV Notes bear interest at an annual rate of 1.80% and 3.15% for the Class A and Class B notes, respectively. See "*—Liquidity and Capital Resources—Financing Arrangements—Securitizations*" below.

During the fourth quarter of 2020, certain of the holders of our 9.75% convertible senior notes converted approximately $66.0 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into 4,890,892 shares of our common stock. In January and February 2021, the remaining holders of our 9.75% convertible senior notes converted approximately $97.1 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into 7,196,035 shares of our common stock. As of February 23, 2021, all of the holders of our 9.75% convertible senior notes have converted their notes into common

stock. As such, there are no longer any 9.75% convertible senior notes outstanding. See "*—Liquidity and Capital Resources—Financing Arrangements—Convertible Senior Notes*" below.

In December 2020, we sold 4,025,000 shares of common stock at a public offering price of $37.00 per share. We received aggregate net proceeds of approximately $142.7 million, after deducting underwriting discounts and commissions of approximately $6.0 million and offering expenses of approximately $0.3 million. See "*—Liquidity and Capital Resources—Financing Arrangements—Public Offerings*" below.

Securitizations

As a source of long-term financing, we securitize qualifying solar energy systems, energy storage systems and related solar service agreements into special purpose entities who issue solar asset-backed and solar loan-backed notes to institutional investors. We also securitize the cash flows generated by the membership interests in certain of our indirect, wholly-owned subsidiaries that are the managing member of a tax equity fund that owns a pool of solar energy systems, energy storage systems and related solar service agreements that were originated by one of our wholly-owned subsidiaries. We do not securitize the Section 48(a) ITC incentives associated with the solar energy systems and energy storage systems as part of these arrangements. We use the cash flows these solar energy systems and energy storage systems generate to service the monthly, quarterly or semi-annual principal and interest payments on the notes and satisfy the expenses and reserve requirements of the special purpose entities, with any remaining cash distributed to their sole members, who are typically our indirect wholly-owned subsidiaries. In connection with these securitizations, certain of our affiliates receive a fee for managing and servicing the solar energy systems and energy storage systems pursuant to management, servicing, facility administration and asset management agreements. The special purpose entities are also typically required to maintain a liquidity reserve account and a reserve account for equipment replacements and, in certain cases, reserve accounts for financing fund purchase option/withdrawal right exercises or storage system replacement for the benefit of the holders under the applicable series of notes, each of which are funded from initial deposits or cash flows to the levels specified therein. The creditors of these special purpose entities have no recourse to our other assets except as expressly set forth in the terms of the notes. From our inception through December 31, 2020, we have issued $1.7 billion in solar asset-backed and solar loan-backed notes.

Tax Equity Funds

Our ability to offer long-term solar service agreements depends in part on our ability to finance the installation of the solar energy systems and energy storage systems by co-investing with tax equity investors, such as large banks who value the resulting customer receivables and Section 48(a) ITCs, accelerated tax depreciation and other incentives related to the solar energy systems and energy storage systems, primarily through structured investments known as "tax equity". Tax equity investments are generally structured as non-recourse project financings known as "tax equity funds". In the context of distributed generation solar energy, tax equity investors make contributions upfront or in stages based on milestones in exchange for a share of the tax attributes and cash flows emanating from an underlying portfolio of solar energy systems and energy storage systems. In these tax equity funds, the U.S. federal tax attributes offset taxes that otherwise would have been payable on the investors' other operations. The terms and conditions of each tax equity fund vary significantly by investor and by fund. We continue to negotiate with potential investors to create additional tax equity funds.

In general, our tax equity funds are structured using the "partnership flip" structure. Under partnership flip structures, we and our tax equity investors contribute cash into a partnership. The partnership uses this cash to acquire long-term solar service agreements, solar energy systems and energy storage systems developed by us and sells energy from such solar energy systems and energy storage systems, as applicable, to customers or directly leases the solar energy systems and energy storage systems, as applicable, to customers. We assign these solar service agreements, solar energy systems, energy storage systems and related incentives to our tax equity funds in accordance with the criteria of the specific funds. Upon such assignment and the satisfaction of certain conditions precedent, we are able to draw down on the tax equity fund commitments. The conditions precedent to funding vary across our tax equity funds but generally require that we have entered into a solar service agreement with the customer, the customer meets certain credit criteria, the solar energy system is expected to be eligible for the Section 48(a) ITC, we have a recent appraisal from an independent appraiser establishing the fair market value of the solar energy system and the property is in an approved state or territory. Certain tax equity investors agree to receive a minimum target rate of return, typically on an after-tax basis, which varies by tax equity fund. Prior to receiving a contractual rate of return or a date specified in the contractual arrangements, the tax equity investor receives substantially all of the non-cash value attributable to the solar energy systems and energy storage systems, which includes accelerated depreciation and Section 48(a) ITCs, and a significant portion of the value attributable to customer payments; however, we typically receive a majority of the cash distributions, which are typically paid quarterly. After the tax equity investor receives its contractual rate of return or after a specified date, we receive substantially all of the cash. Under the partnership flip structure, in part owing to the allocation of depreciation benefits to the investor, the investor's pre-tax return is much lower than the investor's after-tax return.

We have determined we are the primary beneficiary in these tax equity funds for accounting purposes. Accordingly, we consolidate the assets and liabilities and operating results of these partnerships in our consolidated financial statements. We recognize the tax equity investors' share of the net assets of the tax equity funds as redeemable noncontrolling interests and noncontrolling interests in our consolidated balance sheets. These income or loss allocations, reflected in our consolidated statements of operations, may create significant volatility in our reported results of operations, including potentially changing net loss attributable to stockholders to net income attributable to stockholders, or vice versa, from quarter to quarter.

We typically have an option to acquire, and our tax equity investors may have an option to withdraw and require us to purchase, all the equity interests our tax equity investor holds in the tax equity funds starting approximately six years after the last solar energy system in each tax equity fund is operational. If we or our tax equity investors exercise this option, we are typically required to pay at least the fair market value of the tax equity investor's equity interest and, in certain cases, a contractual minimum amount. Following such exercise, we would receive 100% of the customer payments for the remainder of the term of the solar service agreements. From our inception through December 31, 2020, we have received commitments of $789.5 million through the use of tax equity funds, of which an aggregate of $628.6 million has been funded.

Key Financial and Operational Metrics

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

Number of Customers. We define number of customers to include each unique customer that is party to a solar service agreement or purchased a solar energy system from us outright, which we subsequently placed in service. For all solar energy systems installed by us, in-service means the related solar energy system and, if applicable, energy storage system, must have met all the requirements to begin operation and be interconnected to the electrical grid. We do not include in our number of customers any customer under a lease, PPA or loan agreement that has reached mechanical completion but has not received permission to operate from the local utility or for whom we have terminated the contract and removed the solar energy system. We also do not include in our number of customers any customer that has been in default under his or her solar service agreement in excess of six months. We track the total number of customers as an indicator of our historical growth and our rate of growth from period to period.

	As of December 31,		
	2020	2019	Change
Number of customers	107,500	78,600	28,900

Weighted Average Number of Customers. We calculate the weighted average number of customers based on the number of months a given customer is in-service during a given measurement period. The weighted average number of customers reflects the number of customers at the beginning of a period, plus the total number of new customers added in the period adjusted by a factor that accounts for the partial period nature of those new customers. For purposes of this calculation, we assume all new customers added during a month were added in the middle of that month. We track the weighted average customer count in order to accurately reflect the contribution of the appropriate number of customers to key financial metrics over the measurement period.

	Year Ended December 31,		
	2020	2019	2018
Weighted average number of customers (excluding loan agreements)	77,900	60,100	49,200
Weighted average number of customers with loan agreements	14,200	8,400	4,200
Weighted average number of customers	92,100	68,500	53,400

Adjusted EBITDA. We define Adjusted EBITDA as net income (loss) plus net interest expense, depreciation and amortization expense, income tax expense, financing deal costs, natural disaster losses and related charges, net, amortization of payments to dealers for exclusivity and other bonus arrangements, legal settlements and excluding the effect of certain non-recurring items we do not consider to be indicative of our ongoing operating performance such as, but not limited to, costs of our initial public offering ("IPO"), losses on unenforceable contracts, losses on extinguishment of long-term debt, realized and unrealized gains and losses on fair value option instruments and other non-cash items such as non-cash compensation expense,

asset retirement obligation ("ARO") accretion expense, provision for current expected credit losses and non-cash inventory impairment.

Adjusted EBITDA is a non-GAAP financial measure we use as a performance measure. We believe investors and securities analysts also use Adjusted EBITDA in evaluating our operating performance. This measurement is not recognized in accordance with accounting principles generally accepted in the United States of America ("GAAP") and should not be viewed as an alternative to GAAP measures of performance. The GAAP measure most directly comparable to Adjusted EBITDA is net income (loss). The presentation of Adjusted EBITDA should not be construed to suggest our future results will be unaffected by non-cash or non-recurring items. In addition, our calculation of Adjusted EBITDA is not necessarily comparable to Adjusted EBITDA as calculated by other companies.

We believe Adjusted EBITDA is useful to management, investors and analysts in providing a measure of core financial performance adjusted to allow for comparisons of results of operations across reporting periods on a consistent basis. These adjustments are intended to exclude items that are not indicative of the ongoing operating performance of the business. Adjusted EBITDA is also used by our management for internal planning purposes, including our consolidated operating budget, and by our Board in setting performance-based compensation targets. Adjusted EBITDA should not be considered an alternative to but viewed in conjunction with GAAP results, as we believe it provides a more complete understanding of ongoing business performance and trends than GAAP measures alone. Adjusted EBITDA has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP.

We use per customer metrics, including Adjusted Operating Expense per weighted average customer (as described below), as an additional way to evaluate our performance. Specifically, we consider the change in these metrics from period to period as a way to evaluate our performance in the context of changes we experience in the overall customer base. While the Adjusted Operating Expense figure provides a valuable indicator of our overall performance, evaluating this metric on a per unit basis allows for further nuanced understanding by management, investors and analysts of the financial impact of each additional customer.

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Reconciliation of Net Loss to Adjusted EBITDA:			
Net loss	$ (307,818)	$ (133,434)	$ (68,409)
Interest expense, net	154,580	108,024	51,582
Interest expense, net—affiliates	—	4,098	9,548
Interest income	(23,741)	(12,483)	(6,450)
Income tax expense	181	—	—
Depreciation expense	66,066	49,340	39,290
Amortization expense	32	29	133
EBITDA	(110,700)	15,574	25,694
Non-cash compensation expense (1)	10,873	10,512	3,410
ARO accretion expense	2,186	1,443	1,183
Financing deal costs	4,454	1,161	1,902
Natural disaster losses and related charges, net	31	54	8,217
IPO costs	—	3,804	563
Loss on unenforceable contracts	—	2,381	—
Loss on extinguishment of long-term debt, net	142,772	—	—
Loss on extinguishment of long-term debt, net—affiliates	—	10,645	—
Unrealized (gain) loss on fair value option instruments	(907)	150	—
Realized (gain) loss on fair value option instruments	(835)	730	—
Amortization of payments to dealers for exclusivity and other bonus arrangements	1,820	583	—
Legal settlements	—	1,260	150
Provision for current expected credit losses	7,969	—	—
Non-cash inventory impairment	1,934	—	—
Adjusted EBITDA	$ 59,597	$ 48,297	$ 41,119

(1) Amount includes the non-cash effect of equity-based compensation plans of $10.9 million, $9.2 million and $3.0 million for the years ended December 31, 2020, 2019 and 2018, respectively, and partial forgiveness of a loan to an executive officer used to purchase our capital stock of $1.3 million and $0.4 million for the years ended December 31, 2019 and 2018, respectively.

Interest Income and Principal Payments from Customer Notes Receivable. Under our loan agreements, the customer obtains financing for the purchase of a solar energy system from us and we agree to operate and maintain the solar energy system throughout the duration of the agreement. Pursuant to the terms of the loan agreement, the customer makes scheduled principal and interest payments to us and has the option to prepay principal at any time in part or in full. Whereas we typically recognize payments from customers under our leases and PPAs as revenue, we recognize payments received from customers under our loan agreements (a) as interest income, to the extent attributable to earned interest on the contract that financed the customer's purchase of the solar energy system; (b) as a reduction of a note receivable on the balance sheet, to the extent attributable to a return of principal (whether scheduled or prepaid) on the contract that financed the customer's purchase of the solar energy system; and (c) as revenue, to the extent attributable to payments for operations and maintenance services provided by us.

While Adjusted EBITDA effectively captures the operating performance of our leases and PPAs, it only reflects the service portion of the operating performance under our loan agreements. We do not consider our types of solar service agreements differently when evaluating our operating performance. In order to present a measure of operating performance that provides comparability without regard to the different accounting treatment among our three types of solar service agreements, we consider interest income from customer notes receivable and principal proceeds from customer notes receivable, net of related revenue, as key performance metrics. We believe these two metrics provide a more meaningful and uniform method of

analyzing our operating performance when viewed in light of our other key performance metrics across the three primary types of solar service agreements.

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Interest income from customer notes receivable	$ 23,239	$ 11,588	$ 6,147
Principal proceeds from customer notes receivable, net of related revenue	$ 32,580	$ 20,044	$ 6,812

Adjusted Operating Cash Flow. We define Adjusted Operating Cash Flow as net cash used in operating activities plus principal proceeds from customer notes receivable, financed insurance payments and distributions to redeemable noncontrolling interests and noncontrolling interests less derivative breakage fees from financing structure changes, payments to dealers for exclusivity and other bonus arrangements, net inventory and prepaid inventory (sales) purchases, payments of non-capitalized costs related to our IPO and equity offerings and direct sales costs to the extent the related solar energy system is financed through a loan. Adjusted Operating Cash Flow is a non-GAAP financial measure we use as a liquidity measure. This measurement is not recognized in accordance with GAAP and should not be viewed as an alternative to GAAP measures of liquidity. The GAAP measure most directly comparable to Adjusted Operating Cash Flow is net cash used in operating activities. We believe Adjusted Operating Cash Flow is a supplemental financial measure useful to management, analysts, investors, lenders and rating agencies as an indicator of our ability to internally fund origination activities, service or incur additional debt and service our contractual obligations. We believe investors and analysts will use Adjusted Operating Cash Flow to evaluate our liquidity and ability to service our contractual obligations. However, Adjusted Operating Cash Flow has limitations as an analytical tool because it does not account for all future expenditures and financial obligations of the business or reflect unforeseen circumstances that may impact our future cash flows, all of which could have a material effect on our financial condition and results from operations. In addition, our calculations of Adjusted Operating Cash Flow are not necessarily comparable to liquidity measures presented by other companies. Investors should not rely on these measures as a substitute for any GAAP measure, including net cash used in operating activities.

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Reconciliation of Net Cash Used in Operating Activities to Adjusted Operating Cash Flow:			
Net cash used in operating activities	$ (131,466)	$ (170,262)	$ (11,570)
Principal proceeds from customer notes receivable	35,479	21,604	$ 7,715
Financed insurance payments	(4,981)	(4,672)	$ —
Derivative breakage fees from financing structure changes	48,672	12,080	$ (17,793)
Distributions to redeemable noncontrolling interests and noncontrolling interests	(6,527)	(7,559)	$ (2,017)
Payments to dealers for exclusivity and other bonus arrangements	25,849	31,733	$ —
Net inventory and prepaid inventory purchases	41,548	118,549	$ 13,100
Payments of non-capitalized costs related to IPO	—	4,944	—
Payments of non-capitalized costs related to equity offerings	2,031	—	—
Direct sales costs	108	—	—
Adjusted Operating Cash Flow	$ 10,713	$ 6,417	$ (10,565)

Adjusted Operating Expense. We define Adjusted Operating Expense as total operating expense less depreciation and amortization expense, financing deal costs, natural disaster losses and related charges, net, amortization of payments to dealers for exclusivity and other bonus arrangements, legal settlements and excluding the effect of certain non-recurring items we do not consider to be indicative of our ongoing operating performance such as, but not limited to, costs of our IPO, losses on unenforceable contracts and other non-cash items such as non-cash compensation expense, ARO accretion expense, provision for current expected credit losses and non-cash inventory impairment. Adjusted Operating Expense is a non-GAAP financial measure we use as a performance measure. We believe investors and securities analysts will also use Adjusted Operating Expense in evaluating our performance. This measurement is not recognized in accordance with GAAP and should not be viewed as an alternative to GAAP measures of performance. The GAAP measure most directly comparable to Adjusted Operating Expense is total operating expense. We believe Adjusted Operating Expense is a supplemental financial measure

useful to management, analysts, investors, lenders and rating agencies as an indicator of the efficiency of our operations between reporting periods. Adjusted Operating Expense should not be considered an alternative to but viewed in conjunction with GAAP total operating expense, as we believe it provides a more complete understanding of our performance than GAAP measures alone. Adjusted Operating Expense has limitations as an analytical tool and you should not consider it in isolation or as a substitute for analysis of our results as reported under GAAP, including total operating expense.

We use Adjusted Operating Expense per weighted average customer as an additional way to evaluate our performance. Specifically, we consider the change in this metric from period to period as a way to evaluate our performance in the context of changes we experience in the overall customer base. While the Adjusted Operating Expense figure provides a valuable indicator of our overall performance, evaluating this metric on a per customer basis provides a more contextualized understanding of our performance to us, investors and analysts of the financial impact of each additional customer.

	Year Ended December 31,		
	2020	2019	2018
	(in thousands, except per customer data)		
Reconciliation of Total Operating Expense, Net to Adjusted Operating Expense:			
Total operating expense, net	$ 196,598	$ 153,826	$ 118,112
Depreciation expense	(66,066)	(49,340)	(39,290)
Amortization expense	(32)	(29)	(133)
Non-cash compensation expense	(10,873)	(10,512)	(3,410)
ARO accretion expense	(2,186)	(1,443)	(1,183)
Financing deal costs	(4,454)	(1,161)	(1,902)
Natural disaster losses and related charges, net	(31)	(54)	(8,217)
IPO costs	—	(3,804)	(563)
Loss on unenforceable contracts	—	(2,381)	—
Amortization of payments to dealers for exclusivity and other bonus arrangements	(1,820)	(583)	—
Legal settlements	—	(1,260)	(150)
Provision for current expected credit losses	(7,969)	—	—
Non-cash inventory impairment	(1,934)	—	—
Adjusted Operating Expense	$ 101,233	$ 83,259	$ 63,264
Adjusted Operating Expense per weighted average customer	$ 1,099	$ 1,215	$ 1,185

Estimated Gross Contracted Customer Value. We calculate estimated gross contracted customer value as defined below. We believe estimated gross contracted customer value can serve as a useful tool for investors and analysts in comparing the remaining value of our customer contracts to that of our peers.

Estimated gross contracted customer value as of a specific measurement date represents the sum of the present value of the remaining estimated future net cash flows we expect to receive from existing customers during the initial contract term of our leases and PPAs, which are typically 25 years in length, plus the present value of future net cash flows we expect to receive from the sale of related SRECs, either under existing contracts or in future sales, plus the carrying value of outstanding customer loans on our balance sheet. From these aggregate estimated initial cash flows, we subtract the present value of estimated net cash distributions to redeemable noncontrolling interests and noncontrolling interests and estimated operating, maintenance and administrative expenses associated with the solar service agreements. These estimated future cash flows reflect the projected monthly customer payments over the life of our solar service agreements and depend on various factors including but not limited to solar service agreement type, contracted rates, expected sun hours and the projected production capacity of the solar equipment installed. For the purpose of calculating this metric, we discount all future cash flows at 6%.

The anticipated operating, maintenance and administrative expenses included in the calculation of estimated gross contracted customer value include, among other things, expenses related to accounting, reporting, audit, insurance, maintenance and repairs. In the aggregate, we estimate these expenses are $20 per kilowatt per year initially, with 2% annual increases for inflation, and an additional $81 per year non-escalating expense included for energy storage systems. We do not include maintenance and repair costs for inverters and similar equipment as those are largely covered by the applicable product and dealer warranties for the life of the product, but we do include additional cost for energy storage systems, which are only

covered by a 10-year warranty. Expected distributions to tax equity investors vary among the different tax equity funds and are based on individual tax equity fund contract provisions.

Estimated gross contracted customer value is forecasted as of a specific date. It is forward-looking and we use judgment in developing the assumptions used to calculate it. Factors that could impact estimated gross contracted customer value include, but are not limited to, customer payment defaults, or declines in utility rates or early termination of a contract in certain circumstances, including prior to installation. The following table presents the calculation of estimated gross contracted customer value as of December 31, 2020 and 2019, calculated using a 6% discount rate.

	As of December 31,	
	2020	2019
	(in millions)	
Estimated gross contracted customer value	$ 2,607	$ 1,879

Sensitivity Analysis. The calculation of estimated gross contracted customer value and associated operational metrics requires us to make a number of assumptions regarding future revenues and costs which may not prove accurate. Accordingly, we present below a sensitivity analysis with a range of assumptions. We consider a discount rate of 4% to be appropriate based on recent transactions that demonstrate a portfolio of residential solar service agreements is an asset class that can be securitized successfully on a long-term basis, with a coupon of less than 4%. We also present these metrics with a discount rate of 6% based on industry practice. The appropriate discount rate for these estimates may change in the future due to the level of inflation, rising interest rates, our cost of capital and consumer demand for solar energy systems. In addition, the table below provides a range of estimated gross contracted customer value amounts if different cumulative customer loss rate assumptions were used. We are presenting this information for illustrative purposes only and as a comparison to information published by our peers.

Estimated Gross Contracted Customer Value

	As of December 31, 2020		
	Discount rate		
Cumulative customer loss rate	**4%**	**6%**	**8%**
	(in millions)		
5%	$ 2,949	$ 2,569	$ 2,279
0%	$ 2,997	$ 2,607	$ 2,309

Significant Factors and Trends Affecting Our Business

Our results of operations and our ability to grow our business over time could be impacted by a number of factors and trends that affect our industry generally, as well as new offerings of services and products we may acquire or seek to acquire in the future. Additionally, our business is concentrated in certain markets, putting us at risk of region-specific disruptions such as adverse economic, regulatory, political, weather and other conditions. See "*Item 1A. Risk Factors*" for further discussion of risks affecting our business.

Financing Availability. Our future growth depends, in significant part, on our ability to raise capital from third-party investors on competitive terms to help finance the origination of our solar energy systems under our solar service agreements. We have historically used debt, such as convertible senior notes, asset-backed and loan-backed securitizations and warehouse facilities, tax equity, preferred equity and other financing strategies to help fund our operations. From our inception through December 31, 2020, we have raised more than $6.7 billion in total capital commitments from equity, debt and tax equity investors. With respect to tax equity, there are a limited number of potential tax equity investors and the competition for this investment capital is intense. The principal tax credit on which tax equity investors in our industry rely is the Section 48(a) ITC. Starting January 1, 2020, the amount for the Section 48(a) ITC was equal to 30% of the basis of eligible solar property that began construction before 2020 if placed in service before 2026. By statute, the Section 48(a) ITC percentage decreases to 26% for eligible solar property that begins construction during 2020, 2021 or 2022, 22% for 2023 and 10% if construction begins after 2023 or if the property is placed into service after 2025. This reduction in the Section 48(a) ITC will likely reduce our use of tax equity financing in the future unless the Section 48(a) ITC is increased or replaced. IRS guidance includes a safe harbor that may apply when a taxpayer (or in certain cases, a contractor) pays or incurs 5% or more of the costs of a solar energy system before the end of the applicable year, even though the solar energy system is not placed in service until after the end of that year. For installations in 2021, we purchased prior to 2020 substantially all the inverters that we estimated would be deployed under our lease and PPA agreements that we expected would allow the related solar energy systems to qualify for the 30% Section 48(a) ITC by satisfying the 5% ITC Safe Harbor. Based on various market factors, however, not all solar energy

systems installed in 2021 will qualify for the Section 48(a) ITC at 30%. For solar energy systems installed in 2021 not meeting all requirements for the 30% Section 48(a) ITC, such solar energy systems will qualify for the 26% Section 48(a) ITC. Additionally, we may make further inventory purchases in future periods to extend the availability of each period's Section 48(a) ITC. Our ability to raise capital from third-party investors is affected by general economic conditions, the state of the capital markets, inflation levels and concerns about our industry or business.

Cost of Solar Energy Systems. Although the solar panel market has seen an increase in supply, upward pressure on prices may occur due to growth in the solar industry, regulatory policy changes, tariffs and duties and an increase in demand. As a result of these developments, we may pay higher prices on imported solar modules, which may make it less economical for us to serve certain markets. Attachment rates for energy storage systems have trended higher while the price to acquire has trended downward making the addition of energy storage systems a potential area of growth for us.

Energy Storage Systems. Our energy storage systems increase our customers' independence from the centralized utility and provide on-site backup power when there is a grid outage due to storms, wildfires, other natural disasters and general power failures caused by supply or transmission issues. In addition, at times it can be more economic to consume less energy from the grid or, alternatively, to export solar energy back to the grid. Recent technological advancements for energy storage systems allow the energy storage system to adapt to pricing and utility rate shifts by controlling the inflows and outflows of power, allowing customers to increase the value of their solar energy system plus energy storage system. The energy storage system charges during the day, making the energy it stores available to the home when needed. It also features software that can customize power usage for the individual customer, providing backup power, optimizing solar energy consumption versus grid consumption or preventing export to the grid as appropriate. The software is tailored based on utility regulation, economic indicators and grid conditions. The combination of energy control, increased energy resilience and independence from the grid is strong incentive for customers to adopt solar and energy storage. As energy storage systems and their related software features become more advanced, we expect to see increased adoption of energy storage systems.

Government Regulations, Policies and Incentives. Our growth strategy depends in significant part on government policies and incentives that promote and support solar energy and enhance the economic viability of distributed residential solar. These incentives come in various forms, including net metering, eligibility for accelerated depreciation such as the modified accelerated cost recovery system, SRECs, tax abatements, rebates, renewable targets, incentive programs and tax credits, particularly the Section 48(a) ITC and the Section 25D Credit. Policies requiring solar on new homes or new roofs, such as those enacted in California and New York City, also support the growth of distributed solar. The sale of SRECs has constituted a significant portion of our revenue historically. A change in the value of SRECs or changes in other policies or a loss or reduction in such incentives could decrease the attractiveness of distributed residential solar to us, our dealers and our customers in applicable markets, which could reduce our customer acquisition opportunities. Such a loss or reduction could also reduce our willingness to pursue certain customer acquisitions due to decreased revenue or income under our solar service agreements. Additionally, such a loss or reduction may also impact the terms of and availability of third-party financing. If any of these government regulations, policies or incentives are adversely amended, delayed, eliminated, reduced, retroactively changed or not extended beyond their current expiration dates or there is a negative impact from the recent federal law changes or proposals, our operating results and the demand for, and the economics of, distributed residential solar energy may decline, which could harm our business.

Components of Results of Operations

Revenue. We recognize revenue from contracts with customers as we satisfy our performance obligations at a transaction price reflecting an amount of consideration based upon an estimated rate of return. We express this rate of return as the solar rate per kWh in the customer contract. The amount of revenue we recognize does not equal customer cash payments because we satisfy performance obligations ahead of cash receipt or evenly as we provide continuous access on a stand-ready basis to the solar energy system. We reflect the differences between revenue recognition and cash payments received in accounts receivable, other assets or deferred revenue, as appropriate.

PPAs. We have determined solar service agreements under which customers purchase electricity from us should be accounted for as revenue from contracts with customers. We recognize revenue based upon the amount of electricity delivered as determined by remote monitoring equipment at solar rates specified under the contracts. The PPAs generally have a term of 25 years with an opportunity for customers to renew for up to an additional 10 years, via two five-year renewal options.

Lease Agreements. We are the lessor under lease agreements for solar energy systems and energy storage systems, which we account for as revenue from contracts with customers. We recognize revenue on a straight-line basis over the contract term as we satisfy our obligation to provide continuous access to the solar energy system. The lease agreements generally have a term of 25 years with an opportunity for customers to renew for up to an additional 10 years, via two five-year renewal options.

We provide customers under our lease agreements a performance guarantee that each solar energy system will achieve a certain specified minimum solar energy production output. The specified minimum solar energy production output may not be achieved due to natural fluctuations in the weather or equipment failures from exposure and wear and tear outside of our control, among other factors. We determine the amount of guaranteed output based on a number of different factors, including (a) the specific site information relating to the tilt of the panels, azimuth (a horizontal angle measured clockwise in degrees from a reference direction) of the panels, size of the solar energy system and shading on site; (b) the calculated amount of available irradiance (amount of energy for a given flat surface facing a specific direction) based on historical average weather data and (c) the calculated amount of energy output of the solar energy system.

If the solar energy system does not produce the guaranteed production amount, we are required to provide a bill credit or refund a portion of the previously remitted customer payments, where the bill credit or repayment is calculated as the product of (a) the shortfall production amount and (b) the dollar amount (guaranteed rate) per kWh that is fixed throughout the term of the contract. These bill credits or remittances of a customer's payments, if needed, are payable in January following the end of the first three years of the solar energy system's placed in service date and then every annual period thereafter. See Note 16, Commitments and Contingencies, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Loan Agreements. We recognize payments received from customers under loan agreements (a) as interest income, to the extent attributable to earned interest on the contract that financed the customer's purchase of the solar energy system; (b) as a reduction of a note receivable on the balance sheet, to the extent attributable to a return of principal (whether scheduled or prepaid) on the contract that financed the customer's purchase of the solar energy system; and (c) as revenue, to the extent attributable to payments for operations and maintenance services provided by us. Similar to our lease agreements, we provide customers under our loan agreements a performance guarantee that each solar energy system will achieve a certain specified minimum solar energy production output, which is a significant proportion of its expected output.

SRECs. Each SREC represents one megawatt hour (1,000 kWh) generated by a solar energy system. We sell SRECs to utilities and other third parties who use the SRECs to meet renewable portfolio standards and can do so with or without the actual electricity associated with the renewable-based generation source. We account for SRECs generated from solar energy systems owned by us, as opposed to those owned by our customers, as governmental incentives with no costs incurred to obtain them and do not consider those SRECs output of the underlying solar energy systems. We classify SRECs as inventory held until sold and delivered to third parties. We enter into economic hedges with major financial institutions related to expected production of SRECs through forward contracts to partially mitigate the risk of decreases in SREC market rates. The contracts require us to physically deliver the SRECs upon settlement. We recognize the related revenue upon the transfer of the SRECs to the counterparty. The costs related to the sales of SRECs are generally limited to fees for brokered transactions. Accordingly, the sale of SRECs in a period generally has a favorable impact on our operating results for that period. In certain circumstances we are required to purchase SRECs on the open market to fulfill minimum delivery requirements under our forward contracts.

Other Revenue. Other revenue includes certain state and utility incentives, revenue from the direct sale of energy storage systems to customers and sales of service plans. We recognize revenue from state and utility incentives in the periods in which they are earned. We recognize revenue from the direct sale of energy storage systems in the period in which the storage components are placed in service. Service plans are available to customers whose solar energy system was not originally sold by Sunnova. We recognize revenue from service plan contracts over the life of the contract, which is typically five years or ten years.

Cost of Revenue—Depreciation. Cost of revenue—depreciation represents depreciation on solar energy systems under lease agreements and PPAs that have been placed in service.

Cost of Revenue—Other. Cost of revenue—other represents costs to purchase SRECs on the open market, SREC broker fees and other items deemed to be a cost of providing the service of selling power to customers or potential customers, such as certain costs to service loan agreements, costs for filing under the Uniform Commercial Code to maintain title, title searches, credit checks on potential customers at the time of initial contract and other similar costs, typically directly related to the volume of customers and potential customers.

Operations and Maintenance Expense. Operations and maintenance expense represents costs paid to third parties for maintaining and servicing the solar energy systems, property insurance and property taxes. In addition, operations and maintenance expense includes impairments due to natural disaster losses net of insurance proceeds recovered under our business interruption and property damage insurance coverage for natural disasters, write downs and write-offs related to inventory adjustments, losses on disposals and other impairments.

General and Administrative Expense. General and administrative expense represents costs for our employees, such as salaries, bonuses, benefits and all other employee-related costs, including stock-based compensation, professional fees related to legal, accounting, human resources, finance and training, information technology and software services, marketing and communications, travel and rent and other office-related expenses. General and administrative expense also includes depreciation on assets not classified as solar energy systems, including information technology software and development projects, vehicles, furniture, fixtures, computer equipment and leasehold improvements and accretion expense on AROs. We capitalize a portion of general and administrative costs, such as payroll-related costs, that is related to employees who are directly involved in the design, construction, installation and testing of the solar energy systems but not directly associated with a particular asset. We also capitalize a portion of general and administrative costs, such as payroll-related costs, that is related to employees who are directly associated with and devote time to internal information technology software and development projects, to the extent of the time spent directly on the application and development stage of such software project.

Interest Expense, Net. Interest expense, net represents interest on our borrowings under our various debt facilities and amortization of debt discounts and deferred financing costs.

Interest Expense, Net—Affiliates. Interest expense, net—affiliates represents interest expense on our debt facilities, including the amortization of the debt discounts, held by our affiliates.

Interest Income. Interest income represents interest income from the notes receivable under our loan program and income on short term investments with financial institutions.

Loss on Extinguishment of Long-Term Debt, Net. Loss on extinguishment of long-term debt, net resulted from the GAAP treatment of conversions of our 9.75% convertible senior notes into shares of our common stock and represents the difference between the net carrying value of the 9.75% convertible senior notes, including accrued and unpaid interest to the date of each conversion, and the fair value of the common stock issued for the converted notes. See Note 13, Stockholders' Equity, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Loss on Extinguishment of Long-Term Debt, Net—Affiliates. Loss on extinguishment of long-term debt, net—affiliates resulted from the GAAP treatment of the amendment to the senior secured notes in April 2019 and represents the difference between the net carrying value of the senior secured notes prior to the amendment and the fair value of the notes after the amendment.

Other (Income) Expense. Other (income) expense primarily represents changes in the fair value of certain financial instruments.

Income Tax Expense. We account for income taxes under Accounting Standards Codification 740, *Income Taxes*. As such, we determine deferred tax assets and liabilities based on temporary differences resulting from the different treatment of items for tax and financial reporting purposes. We measure deferred tax assets and liabilities using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse. Additionally, we must assess the likelihood that deferred tax assets will be recovered as deductions from future taxable income. We have a full valuation allowance on our deferred tax assets because we believe it is more likely than not that our deferred tax assets will not be realized. We evaluate the recoverability of our deferred tax assets on a quarterly basis. Currently, for U.S. income tax purposes, there is no provision or benefit for income taxes as we have incurred losses to date. The income tax expense includes the effects of taxes paid in U.S. territories where the tax code for the respective territory may have separate tax reporting requirements. We do not, however, report financial information on a jurisdictional basis.

Net Income (Loss) Attributable to Redeemable Noncontrolling Interests and Noncontrolling Interests. Net income (loss) attributable to redeemable noncontrolling interests and noncontrolling interests represents third-party interests in the net income or loss of certain consolidated subsidiaries based on hypothetical liquidation at book value.

Results of Operations—Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

The following table sets forth our consolidated statements of operations data for the periods indicated.

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Revenue	$ 160,820	$ 131,556	$ 29,264
Operating expense:			
Cost of revenue—depreciation	58,431	43,536	14,895
Cost of revenue—other	6,747	3,877	2,870
Operations and maintenance	16,313	8,588	7,725
General and administrative	115,148	97,986	17,162
Other operating income	(41)	(161)	120
Total operating expense, net	196,598	153,826	42,772
Operating loss	(35,778)	(22,270)	(13,508)
Interest expense, net	154,580	108,024	46,556
Interest expense, net—affiliates	—	4,098	(4,098)
Interest income	(23,741)	(12,483)	(11,258)
Loss on extinguishment of long-term debt, net	142,772	—	142,772
Loss on extinguishment of long-term debt, net—affiliates	—	10,645	(10,645)
Other (income) expense	(1,752)	880	(2,632)
Loss before income tax	(307,637)	(133,434)	(174,203)
Income tax expense	181	—	181
Net loss	(307,818)	(133,434)	(174,384)
Net income (loss) attributable to redeemable noncontrolling interests and noncontrolling interests	(55,534)	10,917	(66,451)
Net loss attributable to stockholders	$ (252,284)	$ (144,351)	$ (107,933)

Revenue

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
PPA revenue	$ 65,760	$ 48,041	$ 17,719
Lease revenue	51,650	40,191	11,459
SREC revenue	35,747	38,453	(2,706)
Loan revenue	3,032	1,645	1,387
Other revenue	4,631	3,226	1,405
Total	$ 160,820	$ 131,556	$ 29,264

Revenue increased by $29.3 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily as a result of an increased number of solar energy systems in service. The weighted average number of customers (excluding customers with loan agreements) increased from approximately 60,100 for the year ended December 31, 2019 to approximately 77,900 for the year ended December 31, 2020. Excluding SREC revenue and revenue under our loan agreements, on a weighted average number of customers basis, revenue remained relatively flat at $1,522 per customer for the

year ended December 31, 2019 compared to $1,567 per customer for the same period in 2020 (3% increase). SREC revenue decreased by $2.7 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to $3.0 million related to certain forward sales of SRECs recognized in December 2019. This decrease was partially offset by an increase in the number of solar energy systems in service, which resulted in additional SREC production. The fluctuations in SREC revenue from period to period are also affected by the total number of solar energy systems, weather seasonality and hedge and spot prices associated with the timing of the sale of SRECs. On a weighted average number of customers basis, revenues under our loan agreements increased from $196 per customer for the year ended December 31, 2019 to $214 per customer for the same period in 2020 (9% increase) primarily due to market changes and an increase in system sizes and battery attachment rates resulting in larger customer loan balances added during 2020.

Cost of Revenue—Depreciation

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Cost of revenue—depreciation	$ 58,431	$ 43,536	$ 14,895

Cost of revenue—depreciation increased by $14.9 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This increase was primarily due to an increase in the weighted average number of customers (excluding customers with loan agreements) from approximately 60,100 for the year ended December 31, 2019 to approximately 77,900 for the year ended December 31, 2020. On a weighted average number of customers basis, cost of revenue—depreciation remained relatively flat at $724 per customer for the year ended December 31, 2019 compared to $750 per customer for the same period in 2020 (4% increase).

Cost of Revenue—Other

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Cost of revenue—other	$ 6,747	$ 3,877	$ 2,870

Cost of revenue—other increased by $2.9 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This increase was primarily due to the purchase of SRECs of $1.9 million to fulfill minimum delivery requirements under our forward contracts and an increase in fees related to filings required under the Uniform Commercial Code to maintain title due to higher volumes.

Operations and Maintenance Expense

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Operations and maintenance	$ 16,313	$ 8,588	$ 7,725

Operations and maintenance expense increased by $7.7 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to higher impairments and loss on disposals, meter replacement costs, property insurance and property tax. Operations and maintenance expense per customer, excluding net natural disaster losses and non-cash inventory impairment, increased from $142 per customer for the year ended December 31, 2019 to $184 per customer for the year ended December 31, 2020.

General and Administrative Expense

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
General and administrative	$ 115,148	$ 97,986	$ 17,162

General and administrative expense increased by $17.2 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to increases of (a) $8.0 million of provision for current expected credit losses related to the adoption of the new accounting standard in 2020, (b) $4.9 million of payroll and employee related expenses primarily due to the hiring of personnel to support growth, (c) $3.5 million of insurance expenses, (d) $3.3 million of financing deal costs and (e) $2.8 million of consultants, contractors and professional fees. These increases were partially offset by a decrease of $3.8 million of IPO costs.

Interest Expense, Net

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Interest expense, net	$ 154,580	$ 108,024	$ 46,556

Interest expense, net increased by $46.6 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This increase was primarily due to increases in realized loss on interest rate swaps of $38.1 million due to the termination of certain debt facilities in 2020, interest expense of $28.9 million due to an increase in the principal debt balance after entering into new financing arrangements and debt discount amortization of $12.7 million. These increases were partially offset by an increase in unrealized gain on interest rate swaps of $33.0 million.

Interest Expense, Net—Affiliates

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Interest expense, net—affiliates	$ —	$ 4,098	$ (4,098)

Interest expense, net—affiliates decreased by $4.1 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to a decrease in interest expense due to the redemption of the senior secured notes and conversion of the convertible notes in July 2019.

Interest Income

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Interest income	$ 23,741	$ 12,483	$ 11,258

Interest income increased by $11.3 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This increase was primarily due to an increase in the weighted average number of customers with loan agreements from approximately 8,400 for the year ended December 31, 2019 to approximately 14,200 for the year ended December 31, 2020. On a weighted average number of customers basis, loan interest income increased from $1,380 per customer for the year ended December 31, 2019 to $1,637 per customer for the year ended December 31, 2020 primarily due to higher average loan storage balances.

Loss on Extinguishment of Long-Term Debt, Net

Loss on extinguishment of long-term debt, net increased by $142.8 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 due to the conversion of approximately $150.8 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes that met the criteria for extinguishment accounting under GAAP.

Loss on Extinguishment of Long-Term Debt, Net—Affiliates

Loss on extinguishment of long-term debt, net—affiliates decreased by $10.6 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 due to the amendment of the senior secured notes in April 2019 that met the criteria for extinguishment accounting under GAAP.

Income Tax Expense

Income tax expense increased by $0.2 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to the effects of taxes incurred in jurisdictions where the tax code for the respective jurisdiction may have separate tax-reporting requirements.

Net Income (Loss) Attributable to Redeemable Noncontrolling Interests and Noncontrolling Interests

Net income (loss) attributable to redeemable noncontrolling interests and noncontrolling interests changed by $66.5 million in the year ended December 31, 2020 compared to the year ended December 31, 2019 primarily due to losses attributable to noncontrolling interests from tax equity funds added in late 2019 and in 2020.

Results of Operations—Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

See "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Results of Operations—Year Ended December 31, 2019 Compared to Year Ended December 31, 2018*" in our Annual Report on Form 10-K filed with the SEC on February 25, 2020.

Liquidity and Capital Resources

As of December 31, 2020, we had total cash of $377.9 million, of which $209.9 million was unrestricted, and $402.4 million of available borrowing capacity under our various financing arrangements. We seek to maintain diversified and cost-effective funding sources to finance and maintain our operations, fund capital expenditures, including customer acquisitions, and satisfy obligations arising from our indebtedness. Historically, our primary sources of liquidity included non-recourse and recourse debt, investor asset-backed and loan-backed securitizations and cash generated from operations. Our business model requires substantial outside financing arrangements to grow the business and facilitate the deployment of additional solar energy systems. We will seek to raise additional required capital, including from new and existing tax equity investors, additional borrowings, securitizations and other potential debt and equity financing sources. As of December 31, 2020, we were in compliance with all debt covenants under our financing arrangements.

Additionally, from time-to-time we evaluate the potential acquisition of solar energy systems, energy storage systems and related businesses and joint ventures. As a part of these efforts, we may engage in discussions with potential sellers or other parties regarding the possible purchase of or investment in assets and operations that are strategic and complementary to our existing operations. In addition, we have in the past evaluated and pursued, and may in the future evaluate and pursue, the acquisition of or investment in other energy-related assets that have characteristics and opportunities similar to our existing business lines and enable us to leverage our assets, knowledge and skill sets. Such efforts may involve participation by us in processes that have been made public and involve a number of potential buyers or investors, commonly referred to as "auction" processes, as well as situations in which we believe we are the only party or one of a limited number of parties who are in negotiations with the potential seller or other party. These acquisition and investment efforts may involve assets which, if acquired or constructed, could have a material effect on our financial condition and results of operations.

We expect our solar energy systems in service to generate a positive return rate over the customer agreement, typically 10, 15 or 25 years. Typically, once residential solar energy systems commence operations, they do not require significant additional capital expenditures to maintain operating performance. However, in order to grow, we are currently dependent on financing from outside parties. We believe we will have sufficient cash, investment fund commitments and securitization commitments, as described below, together with cash flows from operations to meet our working capital, debt service obligations, contingencies and anticipated required capital expenditures, including customer acquisitions, for at least the next 12 months. However, we are subject to business and operational risks that could adversely affect our ability to raise additional financing. If financing is not available to us on acceptable terms if and when needed, we may be unable to finance installation of our new customers' solar energy systems in a manner consistent with our past performance, our cost of capital could increase, or we may be required to significantly reduce the scope of our operations, any of which would have a material adverse effect on our business, financial condition, results of operations and prospects. In addition, our tax equity funds and debt instruments impose restrictions on our ability to draw on financing commitments. If we are unable to satisfy such conditions, we may incur

penalties for non-performance under certain tax equity funds, experience installation delays, or be unable to make installations in accordance with our plans or at all. Any of these factors could also impact customer satisfaction, our business, operating results, prospects and financial condition.

Financing Arrangements

The following is a description of our various financing arrangements. For a complete description of the facilities in place as of December 31, 2020 see Note 8, Long-Term Debt, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Tax Equity Fund Commitments

As of December 31, 2020, we had undrawn committed capital of approximately $135.8 million under our tax equity funds, which may only be used to purchase and install solar energy systems. We intend to establish new tax equity funds in the future depending on their attractiveness, including the availability and size of Section 48(a) ITCs and related safe harbors, and on investor demand for such funding. The terms of the tax equity funds' operating agreements contain allocations of income (loss) and Section 48(a) ITCs that vary over time and adjust between the members after either the tax equity investor receives its contractual rate of return or after a specified date. The following table summarizes our tax equity commitments as of December 31, 2020:

Date Class A Member Admitted	Class A Member Capital Commitment
	(in thousands)
March 2017	$ 97,500
December 2017	$ 45,000
December 2017	$ 57,000
January 2019	$ 50,000
August 2019	$ 75,000
December 2019	$ 50,000
February 2020	$ 75,000
May 2020	$ 155,000
July 2020	$ 10,000
September 2020	$ 75,000
November 2020	$ 100,000

Additionally, in connection with and subject to closing the Acquisition, Lennar Corporation has committed to contribute an aggregate $200.0 million to four Sunnova tax equity funds, each formed annually during a period of four consecutive years commencing in 2021. For additional information regarding our tax equity fund commitments see Note 12, Redeemable Noncontrolling Interests and Noncontrolling Interests, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Warehouse and Other Debt Financings

We from time to time enter into warehouse credit facilities as a source of funding. Under the warehouse credit facilities, revolving or term financing is provided to special purpose entities, which are typically our wholly-owned subsidiaries, and secured by qualifying solar energy systems (including, if applicable, energy storage systems) and related solar service agreements. The cash flows generated by these solar service agreements are used to cover required debt service payments under the related credit facility and satisfy the expenses and reserve requirements of the special purpose entities. The warehouse credit facilities allow for the pooling and transfer of eligible solar energy systems and related solar service agreements on a non-recourse basis to the subsidiary or us, subject to certain limited exceptions. In connection with these warehouse credit facilities, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to management and servicing agreements. The special purpose entities are also typically required to maintain reserve accounts, including a liquidity reserve account and a reserve account for equipment replacements, each of which are funded from initial deposits or cash flows to the levels specified therein.

The warehouse credit facility structures include certain features designed to protect lenders. One of the common primary

features relates to certain events, such as the insufficiency of cash flows in the collateral pool of assets to meet contractual requirements, the occurrence of which triggers an early repayment of the loans and limits the relevant borrower's ability to obtain additional advances or distribute funds to us. We refer to this as an "amortization event", which may be based on, among other things, a debt service coverage ratio falling or remaining below certain levels, default levels of solar assets exceeding certain thresholds or excess spread falling below certain levels over a multiple month period. In the event of an amortization event, the availability period under a revolving warehouse credit facility may terminate and the borrower may be required to repay the affected outstanding borrowings using available collections received from the asset pool. However, the period of ultimate repayment would be determined by the amount and timing of collections received. An amortization event would impair our liquidity and may require us to utilize our other available contingent liquidity or rely on alternative funding sources, which may or may not be available at the time. The debt agreements of our warehouse credit facilities also typically contain customary events of default for solar warehouse financings that entitle the lenders to take various actions, including the acceleration of amounts due under the related debt agreement and foreclosure on the borrower's assets.

In July 2014, one of our subsidiaries entered into a collateral-based financing agreement with Texas Capital Bank, N.A., as administrative agent, and the lenders party thereto. Outstanding advances under the credit facility bore interest at LIBOR plus an applicable margin. The credit facility had a maturity date occurring in January 2021. In February 2020, we fully repaid the aggregate principal amount outstanding of $92.0 million and terminated the credit facility.

In April 2017, one of our subsidiaries entered into a secured revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The credit facility was amended and restated in March 2019 and further amended in September 2019, December 2019, January 2020, March 2020 and September 2020. Under the amended credit facility, the subsidiary may borrow up to $200.0 million, subject to a borrowing base calculated based on a specified advance rate applied to the net outstanding principal balance of the solar loans securing the credit facility. The proceeds of the loans under the credit facility are available for funding the purchase of solar loans, making deposits in the subsidiary's reserve accounts and paying fees in connection with the credit facility. The credit facility bears interest at an annual rate of adjusted LIBOR plus an applicable margin. The credit facility has a maturity date occurring in November 2022. In June 2020, we used proceeds from the HELIV Notes (as defined below) to repay $149.3 million in aggregate principal amount outstanding. In October 2020, we used proceeds from another credit facility entered into in September 2020 to repay $28.0 million in aggregate principal amount outstanding. Sunnova Energy Corporation guarantees the performance obligations of certain affiliates under agreements entered into in connection with the credit facility, as well as certain indemnity and refund obligations. As of December 31, 2020, we had $28.4 million of available borrowing capacity under the credit facility. In February 2021, we used proceeds from the HELV Notes to repay $107.3 million in aggregate principal amount outstanding.

In April 2017, three of our subsidiaries entered into a secured term loan credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The credit facility was amended and restated in November 2018. Outstanding advances under the credit facility bore interest at LIBOR plus an applicable margin. The credit facility had a maturity date occurring in November 2022. In February 2020, we used proceeds from the SOLI Notes (as defined below) to repay $32.0 million in aggregate principal amount outstanding. In November 2020, we fully repaid the aggregate principal amount outstanding of $10.6 million and terminated the credit facility. Sunnova Energy Corporation had guaranteed the performance obligations of certain affiliates under the agreements entered into in connection with the credit facility, as well as certain indemnity obligations.

In August 2018, one of our subsidiaries entered into a secured revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The credit facility was amended and restated in March 2019 and further amended in September 2019. Under the credit facility, the subsidiary could borrow up to an initial $150.0 million with a maximum commitment amount of $250.0 million based on the aggregate value of solar assets owned by the borrower's subsidiaries, which were primarily tax equity funds, subject to certain concentration limitations. The proceeds of the loan after fees and expenses were available for funding certain reserve accounts required by the credit facility, making distributions to us and paying fees incurred in connection with closing the credit facility. The credit facility bore interest at an annual rate of adjusted LIBOR or, if such rate was not available, a base rate, plus an applicable margin. The credit facility had a maturity date occurring in November 2022. Sunnova Energy Corporation had guaranteed the performance obligations of certain affiliates under agreements entered into in connection with the credit facility as well as certain indemnity and repurchase obligations. In February 2020, we fully repaid the aggregate principal amount outstanding of $226.6 million and terminated the credit facility.

In September 2019, one of our subsidiaries entered into a secured revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The credit facility was amended in December 2019 and further amended in January 2020, February 2020, March 2020, May 2020, June 2020, October 2020, November 2020 and January 2021. Under the credit facility, the subsidiary may borrow up to an initial $460.7 million with a maximum commitment amount of $600.0 million based on the aggregate value of solar assets owned by the borrower's subsidiaries, which are

primarily tax equity funds, subject to certain concentration limitations. The proceeds from the credit facility are available for funding certain reserve accounts required by the credit facility, making distributions to us and paying fees incurred in connection with closing the credit facility. The credit facility bears interest at an annual rate of adjusted LIBOR plus a weighted average margin of 4.15%. The credit facility has a maturity date occurring in November 2022. Sunnova Energy Corporation guarantees the performance obligations of certain affiliates under agreements entered into in connection with the credit facility, as well as certain indemnity and repurchase obligations. In November 2020, we used proceeds from the SOLII Notes to repay $211.5 million in aggregate principal amount outstanding. As of December 31, 2020, we had $360.4 million of available borrowing capacity under the credit facility.

In December 2019, one of our subsidiaries entered into a secured revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The credit facility was amended in September 2020 and November 2020. Under the credit facility, the subsidiary could borrow up to an initial $95.2 million with a maximum commitment amount of $137.6 million, subject to lender consent and certain other conditions. The proceeds from the credit facility were available for purchasing certain eligible equipment the borrower intends will allow certain related solar energy systems to qualify for the 30% Section 48(a) ITC by satisfying the 5% ITC Safe Harbor outlined in IRS Notice 2018-59, funding a reserve account required by the credit facility and paying fees incurred in connection with closing the credit facility. The credit facility bears interest at an annual rate of either LIBOR divided by a percentage equal to 100% minus a reserve percentage or a base rate, plus an applicable margin. The credit facility has a maturity date occurring in December 2022. Sunnova Energy Corporation guarantees the performance obligations of certain affiliates under agreements entered into in connection with the credit facility and also provides a limited payment guarantee in respect of the borrower's obligations under the credit facility that is subject to a cap of $9.5 million, which equates to 10% of the initial commitments. The availability period for additional borrowings under the credit facility ended in December 2020.

In September 2020, one of our subsidiaries entered into a secured revolving credit facility with Banco Popular de Puerto Rico. Under the credit facility, the subsidiary may borrow up to $60.0 million, subject to a borrowing base calculated based on a specified advance rate applied to the net outstanding principal balance of the solar loans securing the credit facility. The proceeds of the loans under the credit facility are available for funding the purchase of solar loans, making deposits in the subsidiary's reserve account and paying fees in connection with the credit facility. The credit facility bears interest at an annual rate of adjusted LIBOR plus an applicable margin. The credit facility has a maturity date occurring in September 2023. Sunnova Energy Corporation guarantees the performance obligations of certain affiliates under agreements entered into in connection with the credit facility. As of December 31, 2020, we had $13.6 million of available borrowing capacity under the credit facility. In February 2021, we used proceeds from the HELV Notes to repay $29.5 million in aggregate principal amount outstanding.

Securitizations

We from time to time securitize solar service agreements and related assets as a source of funding. We access the Rule 144A asset-backed securitization market using wholly-owned special purpose entities to securitize pools of assets, which historically have been solar energy systems and the related lease agreements and PPAs and ancillary rights and agreements both directly or indirectly through interests in the managing member of our tax equity funds. We also securitize our loan agreements and ancillary rights and agreements.

In April 2017, one of our subsidiaries issued $191.8 million in aggregate principal amount of Series 2017-1 Class A solar asset-backed notes, $18.0 million in aggregate principal amount of Series 2017-1 Class B solar asset-backed notes, and $45.0 million in aggregate principal amount of 2017-1 Class C solar asset-backed notes (collectively, the "Notes") with a maturity date of September 2049. The Notes bear interest at an annual rate of 4.94%, 6.00% and 8.00% for the Class A, Class B and Class C notes, respectively.

In November 2018, one of our subsidiaries issued $202.0 million in aggregate principal amount of Series 2018-1 Class A solar asset-backed notes and $60.7 million in aggregate principal amount of Series 2018-1 Class B solar asset-backed notes (collectively, the "Notes II") with a maturity date of July 2048. The Notes II bear interest at an annual rate of 4.87% and 7.71% for the Class A and Class B notes, respectively.

In March 2019, one of our subsidiaries entered into a note purchase agreement pursuant to which certain institutional investors committed to purchase up to $358.0 million principal amount of notes ("RAYSI Notes") in one or more asset-backed private placement securitizations. In March 2019, our subsidiary, the RAYSI Notes issuer, issued an aggregate $133.1 million principal amount of RAYSI Notes pursuant to this note purchase agreement. In June 2019, the RAYSI Notes issuer issued an aggregate $6.4 million in principal amount of RAYSI Notes pursuant to a supplemental note purchase agreement.

In June 2019, one of our subsidiaries issued $139.7 million in aggregate principal amount of Series 2019-A Class A solar loan-backed notes, $14.9 million in aggregate principal amount of Series 2019-A Class B solar loan-backed notes and $13.0 million in aggregate principal amount of Series 2019-A Class C solar loan-backed notes (collectively, the "HELIII Notes") with a maturity date of June 2046. The HELIII Notes bear interest at an annual rate of 3.75%, 4.49% and 5.32% for the Class A, Class B and Class C notes, respectively.

In February 2020, one of our subsidiaries issued $337.1 million in aggregate principal amount of Series 2020-1 Class A solar asset-backed notes and $75.4 million in aggregate principal amount of Series 2020-1 Class B solar asset-backed notes (collectively, the "SOLI Notes") with a maturity date of January 2055. The SOLI Notes bear interest at an annual rate of 3.35% and 5.54% for the Class A and Class B notes, respectively.

In June 2020, one of our subsidiaries issued $135.9 million in aggregate principal amount of Series 2020-A Class A solar loan-backed notes and $22.6 million in aggregate principal amount of Series 2020-A Class B solar loan-backed notes (collectively, the "HELIV Notes") with a maturity date of June 2047. The HELIV Notes bear interest at an annual rate of 2.98% and 7.25% for the Class A and Class B notes, respectively.

In November 2020, one our subsidiaries issued $209.1 million in aggregate principal amount of Series 2020-2 Class A solar asset-backed notes and $45.6 million in aggregate principal amount of Series 2020-2 Class B solar asset-backed notes with a maturity date of November 2055. The SOLII Notes bear interest at an annual rate of 2.73% and 5.47% for the Class A and Class B notes, respectively.

In February 2021, one of our subsidiaries issued $150.1 million in aggregate principal amount of Series 2021-A Class A solar loan-backed notes and $38.6 million in aggregate principal amount of Series 2021-A Class B solar loan-backed notes with a maturity date of February 2048. The HELV Notes bear interest at an annual rate of 1.80% and 3.15% for the Class A and Class B notes, respectively.

The securitization structures include certain features designed to protect investors. The primary feature relates to the availability and adequacy of cash flows in the securitized pool of assets to meet contractual requirements, the insufficiency of which triggers an early repayment of the notes. We refer to this as "early amortization", which may be based on, among other things, a debt service coverage ratio falling or remaining below certain levels. As of December 31, 2020, we have not had any early amortizations under any of our securitizations. In the event of an early amortization, the notes issuer would be required to repay the affected outstanding securitized borrowings using available collections received from the asset pool. However, the period of ultimate repayment would be determined based on the amount and timing of collections received and, in limited circumstances, early amortization may be cured prior to full repayment. An early amortization event would impair our liquidity and may require us to utilize our available non-securitization related contingent liquidity or rely on alternative funding sources, which may or may not be available at the time. The indentures of our securitizations also typically contain customary events of default for solar securitizations that may entitle the noteholders to take various actions, including the acceleration of amounts due under the related indenture and foreclosure on the issuer's assets.

Convertible Senior Notes

In December 2019, we issued and sold an aggregate principal amount of $55.0 million of our 7.75% convertible senior notes in a private placement at an issue price of 95%, for an aggregate purchase price of $52.3 million. In May 2020, we issued and sold an aggregate principal amount of $130.0 million of our 9.75% convertible senior notes in a private placement at an issue price of 95%, for an aggregate purchase price of $123.5 million. The 9.75% convertible senior notes mature in April 2025 unless earlier redeemed, repurchased or converted. We granted the investors of the 9.75% convertible senior notes an option to purchase up to an additional $60.0 million aggregate principal amount of 9.75% convertible senior notes on the same terms and conditions, and the investors exercised this option and completed the purchase of such additional 9.75% convertible senior notes in June 2020. In May 2020, we also entered into privately negotiated exchanges with a small number of institutional investors in our 7.75% convertible senior notes whereby such investors exchanged all $55.0 million aggregate principal amount outstanding of our 7.75% convertible senior notes for an equal principal amount of our 9.75% convertible senior notes.

During the year ended December 31, 2020, certain of the holders of our 9.75% convertible senior notes converted approximately $150.8 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into 11,168,874 shares of our common stock. In January and February 2021, the remaining holders of our 9.75% convertible senior notes converted approximately $97.1 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into 7,196,035 shares of our common stock. As of February 23, 2021, all of the holders of our 9.75% convertible senior notes have converted

their notes into common stock. As such, there are no longer any 9.75% convertible senior notes outstanding. See Note 13, Stockholders' Equity, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Public Offerings

In July and August 2019, we sold 14,865,267 shares of common stock at a public offering price of $12.00 per share and on July 25, 2019 our common stock began trading on the New York Stock Exchange under the symbol "NOVA". We received aggregate net proceeds from our IPO of approximately $162.3 million, after deducting underwriting discounts and commissions of approximately $10.7 million and offering expenses of approximately $5.4 million. We used the proceeds from our IPO to repay indebtedness and for working capital purposes.

In December 2020, we sold 4,025,000 shares of common stock at a public offering price of $37.00 per share. We received aggregate net proceeds of approximately $142.7 million, after deducting underwriting discounts and commissions of approximately $6.0 million and offering expenses of approximately $0.3 million. We used the net proceeds from the offering to acquire solar equipment, repay indebtedness and for working capital purposes.

Contractual Obligations

The following unaudited table summarizes our contractual obligations as of December 31, 2020:

		Payments Due by Period (1)			
	Total	2021	2022-2023	2024-2025	Beyond 2025
			(in thousands)		
Debt obligations (including future interest) (2)	$ 2,619,717	$ 207,158	$ 772,891	$ 327,653	$ 1,312,015
AROs	41,788	—	—	—	41,788
Operating lease payments (3)	12,972	586	3,153	3,249	5,984
Finance lease payments	334	122	157	55	—
Guaranteed performance obligations	5,717	3,308	2,303	106	—
Inventory purchase obligations	101,719	28,497	53,415	19,807	—
Other obligations (4)	12,870	10,698	2,138	34	—
Total	$ 2,795,117	$ 250,369	$ 834,057	$ 350,904	$ 1,359,787

(1) Does not include amounts related to the contingent obligation to purchase all of a tax equity investor's units upon exercise of their right to withdraw rights. The withdrawal price for the tax equity investors' interest in the respective fund is equal to the sum of: (a) any unpaid, accrued priority return and (b) the greater of: (i) a fixed price and (ii) the fair market value of such interest at the date the option is exercised. Due to uncertainties associated with estimating the timing and amount of the withdrawal price, we cannot determine the potential future payments that we could have to make under these withdrawal rights. For additional information regarding the withdrawal rights see Note 12, Redeemable Noncontrolling Interests and Noncontrolling Interests, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

(2) Interest payments related to long-term debt and interest rate swaps are calculated and estimated for the periods presented based on the amount of debt outstanding and the interest rates as of December 31, 2020.

(3) Includes reimbursements in 2021 of approximately $1.0 million for leasehold improvements.

(4) Other obligations relate to information technology services and licenses and distributions payable to redeemable noncontrolling interests.

Historical Cash Flows—Year Ended December 31, 2020 Compared to Year Ended December 31, 2019

The following table summarizes our cash flows for the periods indicated:

	Year Ended December 31,		
	2020	2019	Change
		(in thousands)	
Net cash used in operating activities	$ (131,466)	$ (170,262)	$ 38,796
Net cash used in investing activities	(829,519)	(568,316)	(261,203)
Net cash provided by financing activities	1,188,587	801,823	386,764
Net increase in cash and restricted cash	$ 227,602	$ 63,245	$ 164,357

Operating Activities

Net cash used in operating activities decreased by $38.8 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This decrease is primarily a result of a decrease in purchases of inventory and prepaid inventory with net outflows of $41.5 million in 2020 compared to $118.5 million in 2019 and a decrease in payments to dealers for exclusivity and other bonus arrangements with net outflows of $25.8 million in 2020 compared to $31.7 million in 2019. This decrease was offset by an increase in net outflows of $57.3 million in 2020 compared to net outflows of $19.1 million in 2019 based on: (a) our net loss of $307.8 million in 2020 excluding non-cash operating items of $250.5 million, primarily from depreciation, impairments and losses on disposals, amortization of deferred financing costs and debt discounts, unrealized net gains on derivatives, unrealized net gains on fair value option securities, losses on extinguishment of long-term debt and equity-based compensation charges, which results in net outflows of $57.3 million and (b) our net loss of $133.4 million in 2019 excluding non-cash operating items of $114.4 million, primarily from depreciation, impairments and losses on disposals, amortization of deferred financing costs and debt discounts, unrealized net losses on derivatives, payment-in-kind interest on debt, unrealized net losses on fair value option securities, losses on extinguishment of long-term debt and equity-based compensation charges, which results in net outflows of $19.1 million. These net differences between the two periods result in a net change in operating cash flows of $38.2 million in 2020 compared to 2019.

Investing Activities

Net cash used in investing activities increased by $261.2 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This increase is primarily a result of increases in purchases of property and equipment, primarily solar energy systems, of $578.4 million in 2020 compared to $430.8 million in 2019 and payments for investments and customer notes receivable of $285.2 million in 2020 compared to $159.3 million in 2019. This increase is partially offset by proceeds from customer notes receivable of $35.5 million (of which $28.2 million was prepaid) in 2020 compared to $21.6 million (of which $18.2 million was prepaid) in 2019.

Financing Activities

Net cash provided by financing activities increased by $386.8 million in the year ended December 31, 2020 compared to the year ended December 31, 2019. This increase is primarily a result of increases in net borrowings under our debt facilities of $682.9 million in 2020 compared to $494.9 million in 2019, net contributions from our redeemable noncontrolling interests and noncontrolling interests of $313.7 million in 2020 compared to $149.6 million in 2019 and net proceeds from the equity component of a convertible debt instrument of $73.7 million in 2020 compared to $14.0 million in 2019. This increase is partially offset by decreases in net proceeds from the issuance of common stock of $152.3 million in 2020 compared to $164.5 million in 2019 and payments of deferred financing costs and debt discounts of $27.5 million in 2020 compared to $13.2 million in 2019.

Historical Cash Flows—Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

See "*Management's Discussion and Analysis of Financial Condition and Results of Operations—Historical Cash Flows—Year Ended December 31, 2019 Compared to Year Ended December 31, 2018*" in our Annual Report on Form 10-K filed with the SEC on February 25, 2020 pursuant to the Securities Exchange Act of 1934, as amended.

Seasonality

See "*Business—Seasonality*".

Off-Balance Sheet Arrangements

As of December 31, 2020 and 2019, we did not have any off-balance-sheet arrangements. We consolidate all our securitization vehicles and tax equity funds.

Critical Accounting Policies and Estimates

Our discussion and analysis of our financial condition and results of operations are based upon our consolidated annual financial statements, which have been prepared in accordance with GAAP which requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenue and expenses, cash flows and related disclosures. We base our estimates on historical experience and on various other assumptions we believe to be reasonable under the circumstances. In many instances, we could have reasonably used different accounting estimates, and in other instances, changes in the accounting estimates are reasonably likely to occur from period-to-period. Actual results may differ from these estimates. Our future consolidated financial statements will be affected to the extent our actual results materially differ from these estimates.

We identify our most critical accounting policies as those that are the most pervasive and important to the portrayal of our financial position and results of operations, and that require the most difficult, subjective, and/or complex judgments by management regarding estimates about matters that are inherently uncertain. We believe the assumptions and estimates associated with our principles of consolidation, the estimated useful life of our solar energy systems, the valuation of the assumptions regarding AROs and the valuation of redeemable noncontrolling interests and noncontrolling interests have the greatest subjectivity and impact on our consolidated financial statements. Therefore, we consider these to be our critical accounting policies and estimates and these items are discussed below. See Note 2, Significant Accounting Policies, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K for further discussion of our accounting policies.

Principles of Consolidation

Our consolidated financial statements reflect our accounts and those of our subsidiaries in which we have a controlling financial interest. The typical condition for a controlling financial interest 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 holding a majority of the voting interests. We consolidate any VIE of which we are the primary beneficiary, which is defined as the party that has (a) the power to direct the activities of a VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses or receive benefits from the VIE that could potentially be significant to the VIE. We evaluate our relationships with our VIEs on an ongoing basis to determine whether we continue to be the primary beneficiary. We have eliminated all intercompany transactions in consolidation.

Useful Life of Solar Energy Systems

Our solar energy systems have an estimated useful life of 35 years. We considered both (a) available information related to the technology currently being employed in the solar energy systems and (b) the terms of the solar leases that have a 25 year term with two five-year renewal options to conclude a 35 year useful life is appropriate. In addition, we reviewed numerous published and online sources from academia, government institutions and private industry and held discussions with certain manufacturers of our solar energy systems to support our estimated useful life of 35 years for the crystalline silicone solar modules we use. We define the useful life of a solar module as the duration for which a solar module operates at or above 80% of its initial power output, which we understand to be the generally accepted standard used by government, academia and the solar industry.

Depreciation and amortization of solar energy systems are calculated using the straight-line method over the estimated useful lives of the solar energy systems and are recorded in cost of revenue—depreciation. Depreciation begins when a solar energy system is placed in service. Costs associated with improvements to a solar energy system, which extend the life, increase the capacity or improve the efficiency of the solar energy systems, are capitalized and depreciated over the remaining life of the asset.

ARO

We have AROs arising from contractual or regulatory requirements to perform certain asset retirement activities at the time the solar energy systems are disposed. We recognize an ARO at the point an obligating event takes place, typically when the solar energy system is placed in service. An asset is considered retired when it is permanently taken out of service, such as through a sale or disposal.

The liability is initially measured at fair value based on the present value of estimated removal costs and subsequently adjusted for changes in the underlying assumptions and for accretion expense. We estimate approximately half of our solar energy systems will require removal at our expense in the future. The corresponding asset retirement costs are capitalized as part of the carrying amount of the solar energy system and depreciated over the solar energy system's remaining useful life. We may revise our estimated future liabilities based on recent actual experiences, changes in certain customer-specific estimates and other cost estimate changes. If there are changes in estimated future costs, those changes will be recorded as either a reduction or addition in the carrying amount of the remaining unamortized asset and the ARO and either decrease or increase depreciation and accretion expense amounts prospectively. Inherent in the calculation of the fair value of our AROs are numerous assumptions and judgments, including the ultimate settlement amounts, inflation factors, credit adjusted discount rates, timing of settlement and changes in the legal, regulatory, environmental and political environments. Due to the intrinsic uncertainties present when estimating asset retirement costs, as well as asset retirement dates, our ARO estimates are subject to ongoing volatility.

Redeemable Noncontrolling Interests and Noncontrolling Interests

Noncontrolling interests represent third-party interests in the net assets of certain consolidated subsidiaries (the "tax equity entities"). For these tax equity entities, we have determined the appropriate methodology for calculating the noncontrolling interest balances that reflects the substantive economic arrangements in the operating agreements is a balance sheet approach using the hypothetical liquidation at book value ("HLBV") method. Under the HLBV method, the amounts reported as noncontrolling interests in the consolidated balance sheets represent the amounts third-party investors would hypothetically receive at each balance sheet date under the liquidation provisions of the operating agreements, assuming the net assets of the subsidiaries were liquidated at amounts determined in accordance with GAAP and distributed to the investors. The noncontrolling interest balances in these subsidiaries are reported as a component of equity in the consolidated balance sheets. The amount of income or loss allocated to noncontrolling interests in the results of operations for the subsidiaries using HLBV are determined as the difference in the noncontrolling interest balances in the consolidated balance sheets at the start and end of each reporting period, after taking into account any capital transactions between the subsidiaries and the third-party investors. Factors used in the HLBV calculation include GAAP income (loss), taxable income (loss), capital contributions, investment tax credits, distributions and the stipulated targeted investor return specified in the subsidiaries' operating agreements. Changes in these factors could have a significant impact on the amounts that investors would receive upon a hypothetical liquidation. The use of the HLBV method to allocate income (loss) to the noncontrolling interest holders may create volatility in the consolidated statements of operations as the application of HLBV can drive changes in net income or loss attributable to noncontrolling interests from period to period. We classify certain noncontrolling interests with redemption features that are not solely within our control outside of permanent equity in the consolidated balance sheets. Redeemable noncontrolling interests are reported using the greater of the carrying value at each reporting date as determined by the HLBV method or the estimated redemption value at the end of each reporting period. Estimating the redemption value of the redeemable noncontrolling interests requires the use of significant assumptions and estimates, such as projected future cash flows at the time the redemption feature can be exercised.

Current Expected Credit Losses

Our allowance for current expected credit losses is deducted from the customer notes receivable amortized cost to present the net amount expected to be collected. It is measured on a collective (pool) basis when similar risk characteristics (such as financial asset type, customer credit rating, contractual term and vintage) exist. In determining the allowance for credit losses, we identify customers with potential disputes or collection issues and consider our historical level of credit losses and current economic trends that might impact the level of future credit losses. Adjustments to historical loss information are made for differences in current loan-specific risk characteristics, such as differences in underwriting standards. Expected credit losses are estimated over the contractual term of the loan agreements based on the best available data at the time, and adjusted for expected prepayments when appropriate. The contractual term excludes expected extensions, renewals and modifications unless either of the following applies: (a) we have a reasonable expectation at the reporting date that a troubled debt restructuring will be executed with an individual customer or (b) the extension or renewal options are included in the original or modified contract at the reporting date and are not unconditionally cancelable by us. We review the allowance quarterly for any significant macroeconomic trends that might be developing in the market but not yet impacting us. Assessments done

throughout the year include normal macroeconomic trends (e.g. delinquency and default and loss rates from leading credit bureaus by industry) as well as trends specifically related to the COVID-19 pandemic (e.g. forbearance and credit quality). While making adjustments to loss rates is ultimately a subjective action, we have created an internal and external data-based evaluation process to ensure any adjustments or updates to the model are informed and fact-based prior to executing such a change.

Recent Accounting Pronouncements

See Note 2, Significant Accounting Policies, to our consolidated financial statements included elsewhere in this Annual Report on Form 10-K.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk.

We are exposed to various market risks in the ordinary course of our business. Market risk is the potential loss that may result from market changes associated with our business or with an existing or forecasted financial or commodity transaction. Our primary exposure includes changes in interest rates because certain borrowings bear interest at floating rates based on LIBOR or similar index plus a specified margin. We sometimes manage our interest rate exposure on floating-rate debt by entering into derivative instruments to hedge all or a portion of our interest rate exposure on certain debt facilities. We do not enter into any derivative instruments for trading or speculative purposes. Changes in economic conditions could result in higher interest rates, thereby increasing our interest expense and operating expenses and reducing funds available to capital investments, operations and other purposes. A hypothetical 10% increase in our interest rates on our variable-rate debt facilities would have increased our interest expense by $2.6 million and $2.7 million for the years ended December 31, 2020 and 2019, respectively.

Item 8. Financial Statements and Supplementary Data.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Sunnova Energy International Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Sunnova Energy International Inc. and its subsidiaries (the "Company") as of December 31, 2020 and 2019, and the related consolidated statements of operations, of redeemable noncontrolling interests and equity and of cash flows for each of the three years in the period ended December 31, 2020, including the related notes and financial statement schedule as of December 31, 2020 and 2019 and for each of the three years in the period ended December 31, 2020 listed in the accompanying index (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated 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 consolidated 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 consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Initial Accounting Assessment of New Tax Equity Partnerships (TEPs)

As described in Notes 1, 2, and 12 to the consolidated financial statements, the Company admitted tax equity investors as Class A members of Sunnova TEP IV-C, LLC; Sunnova TEP IV-D, LLC; Sunnova TEP IV-E, LLC; Sunnova TEP IV-F, LLC; and Sunnova TEP IV-G, LLC through a TEP structure in 2020. The Company forms TEPs with its investors in the ordinary course of business to facilitate the funding and monetization of certain attributes associated with the Company's solar energy systems. The typical condition for a controlling financial interest 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 holding a majority of the voting interests. The Company consolidates a VIE when it is the primary beneficiary, which is defined as the party that has (a) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE. As disclosed by management, assets, liabilities and operating results of these partnerships are consolidated in the financial statements. The tax equity investors' share of the net assets of these tax equity funds are recognized as redeemable noncontrolling interests and noncontrolling interests in the consolidated balance sheet. Additionally, management has determined that the appropriate methodology for calculating the noncontrolling interest balances that reflects the substantive economic arrangements in the operating agreements is a balance sheet approach using the hypothetical liquidation at book value ("HLBV") method.

The principal considerations for our determination that performing procedures relating to the initial accounting assessment of new TEP arrangements is a critical audit matter are (i) the significant judgment by management in the assessment of whether the Company is the primary beneficiary of the TEP, thus requiring consolidation of the entity, as well as whether the application of the HLBV method is the appropriate methodology for determining the noncontrolling interest balances, which in turn led to (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating the audit evidence obtained related to the initial accounting assessment of whether the Company is the primary beneficiary of the new TEP and the application of the HLBV methodology based on the substantive economic arrangements of the TEP operating agreements. In addition, the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's assessment of the initial accounting for the new TEPs. These procedures also included, among others, using professionals with specialized skill and knowledge to evaluate management's assessment of whether the Company qualifies as the primary beneficiary of the TEP, and therefore consolidates the TEP, as well as evaluating the appropriateness of management's application of the HLBV methodology based on the substantive economic arrangements of the TEP operating agreements.

/s/ PricewaterhouseCoopers LLP

Houston, Texas
February 25, 2021

We have served as the Company's auditor since 2014, which includes periods before the Company became subject to SEC reporting requirements.

SUNNOVA ENERGY INTERNATIONAL INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except share amounts and share par values)

	As of December 31,	
	2020	2019
Assets		
Current assets:		
Cash	$ 209,859	$ 83,485
Accounts receivable—trade, net	10,243	10,672
Accounts receivable—other	21,378	6,147
Other current assets, net of allowance of $707 and $112 as of December 31, 2020 and 2019, respectively	215,175	174,016
Total current assets	456,655	274,320
Property and equipment, net	2,323,169	1,745,060
Customer notes receivable, net of allowance of $16,961 and $979 as of December 31, 2020 and 2019, respectively	513,386	297,975
Other assets	294,372	169,712
Total assets (1)	$ 3,587,582	$ 2,487,067
Liabilities, Redeemable Noncontrolling Interests and Equity		
Current liabilities:		
Accounts payable	$ 39,908	$ 36,190
Accrued expenses	34,049	39,544
Current portion of long-term debt	110,883	97,464
Other current liabilities	26,013	21,804
Total current liabilities	210,853	195,002
Long-term debt, net	1,924,653	1,346,419
Other long-term liabilities	171,395	127,406
Total liabilities (1)	2,306,901	1,668,827
Commitments and contingencies (Note 16)		
Redeemable noncontrolling interests	136,124	127,129
Stockholders' equity:		
Common stock, 100,412,036 and 83,980,885 shares issued as of December 31, 2020 and 2019, respectively, at $0.0001 par value	10	8
Additional paid-in capital—common stock	1,482,716	1,007,751
Accumulated deficit	(530,995)	(361,824)
Total stockholders' equity	951,731	645,935
Noncontrolling interests	192,826	45,176
Total equity	1,144,557	691,111
Total liabilities, redeemable noncontrolling interests and equity	$ 3,587,582	$ 2,487,067

(1) The consolidated assets as of December 31, 2020 and 2019 include $1,471,796 and $790,211, respectively, of assets of variable interest entities ("VIEs") that can only be used to settle obligations of the VIEs. These assets include cash of $13,407 and $7,347 as of December 31, 2020 and 2019, respectively; accounts receivable—trade, net of $2,953 and $1,460 as of December 31, 2020 and 2019, respectively; accounts receivable—other of $583 and $4 as of December 31, 2020 and 2019, respectively; other current assets of $182,646 and $47,606 as of December 31, 2020 and 2019, respectively; property and equipment, net of $1,257,953 and $726,415 as of December 31, 2020 and 2019, respectively; and other assets of $14,254 and $7,379 as of December 31, 2020 and 2019, respectively. The consolidated liabilities as of December 31, 2020 and 2019 include $32,345 and $13,440, respectively, of liabilities of VIEs whose creditors have no recourse to Sunnova Energy International Inc. These liabilities include accounts payable of $2,744 and $1,926 as of December 31, 2020 and 2019, respectively; accrued expenses of $827 and $35 as of December 31, 2020 and 2019, respectively; other current liabilities of $3,284 and $612 as of December 31, 2020 and 2019, respectively; and other long-term liabilities of $25,490 and $10,867 as of December 31, 2020 and 2019, respectively.

See accompanying notes to consolidated financial statements.

SUNNOVA ENERGY INTERNATIONAL INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(in thousands, except share and per share amounts)

	Year Ended December 31,		
	2020	2019	2018
Revenue	$ 160,820	$ 131,556	$ 104,382
Operating expense:			
Cost of revenue—depreciation	58,431	43,536	34,710
Cost of revenue—other	6,747	3,877	2,007
Operations and maintenance	16,313	8,588	14,035
General and administrative	115,148	97,986	67,430
Other operating income	(41)	(161)	(70)
Total operating expense, net	196,598	153,826	118,112
Operating loss	(35,778)	(22,270)	(13,730)
Interest expense, net	154,580	108,024	51,582
Interest expense, net—affiliates	—	4,098	9,548
Interest income	(23,741)	(12,483)	(6,450)
Loss on extinguishment of long-term debt, net	142,772	—	—
Loss on extinguishment of long-term debt, net—affiliates	—	10,645	—
Other (income) expense	(1,752)	880	(1)
Loss before income tax	(307,637)	(133,434)	(68,409)
Income tax expense	181	—	—
Net loss	(307,818)	(133,434)	(68,409)
Net income (loss) attributable to redeemable noncontrolling interests and noncontrolling interests	(55,534)	10,917	5,837
Net loss attributable to stockholders	(252,284)	(144,351)	(74,246)
Dividends earned on Series A convertible preferred stock	—	(19,271)	(36,346)
Dividends earned on Series C convertible preferred stock	—	(5,454)	(5,948)
Deemed dividends on convertible preferred stock exchange	—	—	(19,332)
Net loss attributable to common stockholders—basic and diluted	$ (252,284)	$ (169,076)	$ (135,872)
Net loss per share attributable to common stockholders—basic and diluted	$ (2.87)	$ (4.14)	$ (15.74)
Weighted average common shares outstanding—basic and diluted	87,871,457	40,797,976	8,634,477

See accompanying notes to consolidated financial statements.

SUNNOVA ENERGY INTERNATIONAL INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2020	**2019**	**2018**
CASH FLOWS FROM OPERATING ACTIVITIES			
Net loss	$ (307,818)	$ (133,434)	$ (68,409)
Adjustments to reconcile net loss to net cash used in operating activities:			
Depreciation	66,066	49,340	39,290
Impairment and loss on disposals, net	5,824	1,772	7,565
Amortization of deferred financing costs	9,031	9,822	9,074
Amortization of debt discount	15,685	3,018	1,083
Non-cash effect of equity-based compensation plans	10,873	9,235	2,984
Non-cash payment-in-kind interest on loan—affiliates	—	2,716	5,524
Unrealized (gain) loss on derivatives	(13,768)	19,237	6,100
Unrealized (gain) loss on fair value option instruments	(907)	150	—
Loss on extinguishment of long-term debt, net	142,772	—	—
Loss on extinguishment of long-term debt, net—affiliates	—	10,645	—
Other non-cash items	14,962	8,442	4,818
Changes in components of operating assets and liabilities:			
Accounts receivable	(4,297)	(9,349)	(4,983)
Other current assets	(24,256)	(131,741)	(11,568)
Other assets	(42,411)	(40,118)	(8,529)
Accounts payable	(1,141)	5,292	(996)
Accrued expenses	(4,504)	15,099	4,234
Other current liabilities	5,397	8,452	4,938
Long-term debt—paid-in-kind—affiliates	—	(719)	(3,184)
Other long-term liabilities	(2,974)	1,879	489
Net cash used in operating activities	(131,466)	(170,262)	(11,570)
CASH FLOWS FROM INVESTING ACTIVITIES			
Purchases of property and equipment	(578,369)	(430,822)	(252,618)
Payments for investments and customer notes receivable	(285,238)	(159,303)	(108,354)
Proceeds from customer notes receivable	35,479	21,604	7,715
State utility rebates and tax credits	641	668	853
Other, net	(2,032)	(463)	3,555
Net cash used in investing activities	(829,519)	(568,316)	(348,849)
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from long-term debt	1,651,765	883,360	445,586
Payments of long-term debt	(963,872)	(342,540)	(292,091)
Proceeds of long-term debt from affiliates	—	15,000	15,000
Payments of long-term debt to affiliates	—	(56,236)	(40,000)
Payments on notes payable	(4,981)	(4,672)	—
Payments of deferred financing costs	(24,084)	(12,110)	(8,598)
Payments of debt discounts	(3,374)	(1,084)	(2,465)
Proceeds from issuance of common stock, net	152,277	164,452	—
Proceeds from equity component of debt instrument, net	73,657	13,984	—
Proceeds from issuance of convertible preferred stock, net	—	(2,510)	172,771
Contributions from redeemable noncontrolling interests and noncontrolling interests	320,245	157,149	79,017
Distributions to redeemable noncontrolling interests and noncontrolling interests	(6,527)	(7,559)	(2,017)
Payments of costs related to redeemable noncontrolling interests and noncontrolling interests	(6,517)	(5,395)	(1,510)
Other, net	(2)	(16)	(6)
Net cash provided by financing activities	1,188,587	801,823	365,687
Net increase in cash and restricted cash	227,602	63,245	5,268
Cash and restricted cash at beginning of period	150,291	87,046	81,778
Cash and restricted cash at end of period	377,893	150,291	87,046
Restricted cash included in other current assets	(73,020)	(10,474)	(5,190)
Restricted cash included in other assets	(95,014)	(56,332)	(29,150)
Cash at end of period	$ 209,859	$ 83,485	$ 52,706

	Year Ended December 31,		
	2020	2019	2018
Non-cash investing and financing activities:			
Change in receivables for dealers in a net receivable position, state utility rebates and state tax credits related to purchases of property and equipment	$ 12,109	$ (975)	$ (1,219)
Change in accounts payable and accrued expenses related to purchases of property and equipment	$ 21,041	$ 26,952	$ 3,191
Change in accounts payable and accrued expenses related to payments for investments and customer notes receivable	$ (18,383)	$ (10,557)	$ (10,461)
Non-cash conversion of convertible senior notes for common stock	$ 149,352	$ —	—
Supplemental cash flow information:			
Cash paid for interest	$ 87,829	$ 58,060	$ 57,887
Cash paid for income taxes	$ 181	$ —	$ —

See accompanying notes to consolidated financial statements.

SUNNOVA ENERGY INTERNATIONAL INC.
CONSOLIDATED STATEMENTS OF REDEEMABLE NONCONTROLLING INTERESTS AND EQUITY
(in thousands, except share amounts)

	Redeemable Noncontrolling Interests	Series A, Series B and Series C Convertible Preferred Stock		Series A and Series B Common Stock		Common Stock		Series A and Series B Treasury Stock	Additional Paid-in Capital - Convertible Preferred Stock	Additional Paid-in Capital - Common Stock	Accumulated Deficit	Total Stockholders' Equity	Noncontrolling Interests	Total Equity
		Shares	Amount	Shares	Amount	Shares	Amount							
December 31, 2017	$ 38,590	44,763,084	$ 448	8,634,455	$ 86	—	$ —	$ —	$ 530,951	$ 82,455	$ (242,757)	$ 371,183	$ —	$ 371,183
Net income (loss)	5,837	—	—	—	—	—	—	—	—	—	(74,246)	(74,246)	—	(74,246)
Issuance of common stock, net	—	—	—	644	—	—	—	—	—	(2)	—	(2)	—	(2)
Issuance of convertible preferred stock, net	—	13,019,793	130	—	—	—	—	—	170,376	—	—	170,506	—	170,506
Non-cash exchange of Series B convertible preferred stock for Series A convertible preferred stock	—	166,497	2	—	—	—	—	—	(2)	—	—	—	—	—
Contributions from redeemable noncontrolling interests	79,017	—	—	—	—	—	—	—	—	—	—	—	—	—
Distributions to redeemable noncontrolling interests	(2,017)	—	—	—	—	—	—	—	—	—	—	—	—	—
Costs related to redeemable noncontrolling interests	(1,062)	—	—	—	—	—	—	—	—	—	—	—	—	—
Equity in subsidiaries attributable to parent	(30,697)	—	—	—	—	—	—	—	—	—	30,697	30,697	—	30,697
Equity-based compensation expense	—	—	—	—	—	—	—	—	—	2,984	—	2,984	—	2,984
Acquisition of treasury stock	—	—	—	—	—	—	—	(4)	—	—	—	(4)	—	(4)
Retirement of treasury stock	—	—	—	(644)	—	—	—	4	—	2	(6)	—	—	—
Other, net	(3,988)	—	(1)	—	—	—	—	—	1	—	—	—	—	—
December 31, 2018	85,680	57,949,374	579	8,634,455	86	—	—	—	701,326	85,439	(286,312)	501,118	—	501,118
Net income (loss)	8,521	—	—	—	—	—	—	—	—	—	(144,351)	(144,351)	2,396	(141,955)
Issuance of common stock, net	—	—	—	2,143	—	14,865,267	1	—	—	163,965	—	163,966	—	163,966
Repurchase of convertible preferred stock	—	(13,484)	—	—	—	—	—	—	(183)	—	(8)	(191)	—	(191)
Non-cash conversion of convertible notes for Series A and Series C convertible preferred stock	—	2,543,127	25	—	—	—	—	—	32,809	—	—	32,834	—	32,834
Non-cash exchange of Series A and Series C convertible preferred stock and Series A and Series B common stock for common stock	—	(60,479,017)	(605)	(8,636,601)	(86)	69,115,618	7	—	(734,444)	735,128	—	—	—	—
Equity component of debt instrument, net	—	—	—	—	—	—	—	—	—	13,984	—	13,984	—	13,984
Contributions from redeemable noncontrolling interests and noncontrolling interests	77,579	—	—	—	—	—	—	—	—	—	—	—	79,570	79,570
Distributions to redeemable noncontrolling interests	(7,559)	—	—	—	—	—	—	—	—	—	—	—	—	—
Costs related to redeemable noncontrolling interests and noncontrolling interests	(2,338)	—	—	—	—	—	—	—	—	—	—	—	(5,054)	(5,054)
Equity in subsidiaries attributable to parent	(37,112)	—	—	—	—	—	—	—	—	—	68,848	68,848	(31,736)	37,112
Equity-based compensation expense	—	—	—	—	—	—	—	—	—	9,235	—	9,235	—	9,235
Other, net	2,358	—	1	3	—	—	—	—	492	—	(1)	492	—	492
December 31, 2019	127,129	—	—	—	—	83,980,885	8	—	—	1,007,751	(361,824)	645,935	45,176	691,111
Cumulative-effect adjustment	—	—	—	—	—	—	—	—	—	—	(9,908)	(9,908)	—	(9,908)
Net income (loss)	10,164	—	—	—	—	—	—	—	—	—	(252,284)	(252,284)	(65,698)	(317,982)
Issuance of common stock, net	—	—	—	—	—	16,431,151	2	—	—	469,269	—	469,271	—	469,271
Equity component of debt instrument, net	—	—	—	—	—	—	—	—	—	(5,177)	—	(5,177)	—	(5,177)
Contributions from redeemable noncontrolling interests and noncontrolling interests	3,449	—	—	—	—	—	—	—	—	—	—	—	316,796	316,796
Distributions to redeemable noncontrolling interests and noncontrolling interests	(4,802)	—	—	—	—	—	—	—	—	—	—	—	(1,725)	(1,725)
Costs related to redeemable noncontrolling interests and noncontrolling interests	187	—	—	—	—	—	—	—	—	—	—	—	(7,895)	(7,895)
Equity in subsidiaries attributable to parent	(883)	—	—	—	—	—	—	—	—	—	93,021	93,021	(92,138)	883
Equity-based compensation expense	—	—	—	—	—	—	—	—	—	10,873	—	10,873	—	10,873
Other, net	880	—	—	—	—	—	—	—	—	—	—	—	(1,690)	(1,690)
December 31, 2020	$ 136,124	—	$ —	—	$ —	100,412,036	$ 10	$ —	$ —	$ 1,482,716	$ (530,995)	$ 951,731	$ 192,826	$ 1,144,557

See accompanying notes to consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(1) Description of Business and Basis of Presentation

We are a leading residential solar and energy storage service provider, serving over 107,000 customers in more than 20 United States ("U.S.") states and territories. Sunnova Energy Corporation was incorporated in Delaware on October 22, 2012 and formed Sunnova Energy International Inc. ("SEI") as a Delaware corporation on April 1, 2019. We completed our initial public offering on July 29, 2019 (our "IPO"); and in connection with our IPO, all of Sunnova Energy Corporation's ownership interests were contributed to SEI. Unless the context otherwise requires, references in this report to "Sunnova," the "Company," "we," "our," "us," or like terms, refer to SEI and its consolidated subsidiaries.

We have a differentiated residential solar dealer model in which we partner with local dealers who originate, design and install our customers' solar energy systems and energy storage systems on our behalf. Our focus on our dealer model enables us to leverage our dealers' specialized knowledge, connections and experience in local markets to drive customer origination while providing our dealers with access to high quality products at competitive prices, as well as technical oversight and expertise. We believe this structure provides operational flexibility, reduces exposure to labor shortages and lowers fixed costs relative to our peers, furthering our competitive advantage.

We provide our services through long-term residential solar service agreements with a diversified pool of high credit quality customers. Our solar service agreements typically are structured as either a legal-form lease (a "lease") of a solar energy system or energy storage system to the customer, the sale of the solar energy system's output to the customer under a power purchase agreement ("PPA") or the purchase of a solar energy system or energy storage system with financing provided by us (a "loan"). The initial term of our solar service agreements is typically 10, 15 or 25 years, during which time we provide or arrange for ongoing services to customers, including monitoring, maintenance and warranty services. Our lease and PPA agreements typically include an opportunity for customers to renew for up to an additional 10 years, via two five-year renewal options. Customer payments and rates can be fixed for the duration of the solar service agreement or escalated at a pre-determined percentage annually. We also receive tax benefits and other incentives from leases and PPAs, a portion of which we finance through tax equity, non-recourse debt structures and hedging arrangements in order to fund our upfront costs, overhead and growth investments. Our future success depends in part on our ability to raise capital from third-party investors and commercial sources. We have an established track record of attracting capital from diverse sources. From our inception through December 31, 2020, we have raised more than $6.7 billion in total capital commitments from equity, debt and tax equity investors.

Basis of Presentation

The accompanying annual audited consolidated financial statements ("consolidated financial statements") include our consolidated balance sheets, statements of operations, statements of redeemable noncontrolling interests and equity and statements of cash flows and have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") from records maintained by us. Our consolidated financial statements include our accounts and those of our subsidiaries in which we have a controlling financial interest. In accordance with the provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 810, *Consolidation*, we consolidate any VIE of which we are the primary beneficiary. We form VIEs with our investors in the ordinary course of business to facilitate the funding and monetization of certain attributes associated with our solar energy systems. The typical condition for a controlling financial interest is holding a majority of the voting interests of an entity. However, a controlling financial interest may also exist in entities, such as VIEs, through arrangements that do not involve holding a majority of the voting interests. We consolidate any VIE of which we are the primary beneficiary, which is defined as the party that has (a) the power to direct the activities of a VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses or receive benefits from the VIE that could potentially be significant to the VIE. We do not consolidate a VIE in which we have a majority ownership interest when we are not considered the primary beneficiary. We have considered the provisions within the contractual arrangements that grant us power to manage and make decisions that affect the operation of our VIEs, including determining the solar energy systems contributed to the VIEs, and the installation, operation and maintenance of the solar energy systems. We consider the rights granted to the other investors under the contractual arrangements to be more protective in nature rather than substantive participating rights. As such, we have determined we are the primary beneficiary of our VIEs and evaluate our relationships with our VIEs on an ongoing basis to determine whether we continue to be the primary beneficiary. We have eliminated all intercompany transactions in consolidation.

Adoption of ASU

In June 2016, the FASB issued Accounting Standards Update ("ASU") No. 2016-13, *Financial Instruments—Credit Losses*, which requires entities to use a forward-looking expected loss approach, referred to as the current expected credit loss

("CECL") methodology, in accordance with ASC 326, *Financial Instruments—Credit Losses*, instead of the incurred loss approach previously in effect when estimating the allowance for credit losses. Under CECL, financial assets measured at amortized cost are presented at the net amount expected to be collected by using an estimate of credit losses for the remaining estimated life of the financial asset based on historical experience, current conditions and reasonable and supportable forecasts. This ASU is effective for annual and interim reporting periods in 2020. In 2018 and 2019, the FASB issued the following ASUs related to ASU 2016-13: ASU No. 2018-19, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*, ASU 2019-05, *Financial Instruments—Credit Losses: Targeted Transition Relief* and ASU 2019-11, *Codification Improvements to Topic 326, Financial Instruments—Credit Losses*. The supplemental ASUs must be adopted simultaneously with ASU 2016-13. We adopted this ASU in January 2020 using the modified retrospective approach for our trade accounts receivable, customer notes receivable and long-term receivable for leases, which resulted in a cumulative-effect adjustment to stockholders' equity of approximately $9.9 million. Results for reporting periods prior to 2020 continue to be presented in accordance with previously applicable GAAP while results for subsequent reporting periods are presented under ASC 326. See Note 2, Significant Accounting Policies, and Note 7, Customer Notes Receivable. The following table presents the impact of the adoption of ASU No. 2016-13 on the consolidated balance sheet:

	As of January 1, 2020		
	As Reported Under ASC 326	Impact of ASC 326 Adoption	Pre-ASC 326 Adoption
		(in thousands)	
Accounts receivable—trade, net	$ 10,912	$ 240	$ 10,672
Other current assets	173,565	(451)	174,016
Customer notes receivable	289,191	(8,784)	297,975
Other assets	168,799	(913)	169,712
Accumulated deficit	(371,732)	(9,908)	(361,824)

Revisions

We have revised our previously issued annual audited consolidated financial statements to correct immaterial classification errors pertaining to the Class A members' interests in certain of our tax equity funds. We incorrectly classified the Class A members' interests as redeemable noncontrolling interests whereas these interests should have been classified as noncontrolling interests. These misclassifications impacted our consolidated balance sheets and consolidated statements of redeemable noncontrolling interests and equity. The following tables present the impact of these revisions on our consolidated financial statements:

	As of December 31, 2019		
	As Previously Reported	Revisions	As Revised
		(in thousands)	
Redeemable noncontrolling interests	$ 172,305	$ (45,176)	$ 127,129
Noncontrolling interests	—	45,176	45,176

	Redeemable Noncontrolling Interests			Noncontrolling Interests		
	As Previously Reported	Revisions	As Revised	As Previously Reported	Revisions	As Revised
	(in thousands)					
December 31, 2018	$ 85,680	$ —	$ 85,680	$ —	$ —	$ —
Net income	10,917	(2,396)	8,521	—	2,396	2,396
Contributions from redeemable noncontrolling interests and noncontrolling interests	157,149	(79,570)	77,579	—	79,570	79,570
Distributions to redeemable noncontrolling interests	(7,559)	—	(7,559)	—	—	—
Costs related to redeemable noncontrolling interests and noncontrolling interests	(7,392)	5,054	(2,338)	—	(5,054)	(5,054)
Equity in subsidiaries attributable to parent	(68,848)	31,736	(37,112)	—	(31,736)	(31,736)
Other, net	2,358	—	2,358	—	—	—
December 31, 2019	$ 172,305	$ (45,176)	$ 127,129	$ —	$ 45,176	$ 45,176

Reclassifications

Certain other prior period amounts have been reclassified to conform to the current period presentation. These reclassifications did not have a significant impact on our consolidated financial statements.

Coronavirus ("COVID-19") Pandemic

The ongoing COVID-19 pandemic has resulted and may continue to result in widespread adverse impacts on the global economy. Our first priority in our response to this pandemic has been the health and safety of our employees, customers and dealers. To that end, we quickly implemented preventative measures to minimize unnecessary risk of exposure, which we have continued to follow. We have experienced some resulting disruptions to our business operations as the COVID-19 pandemic has continued to spread through the states and U.S. territories in which we operate.

To adjust to federal social distancing guidelines, stay-at-home orders and similar government measures, our dealers expanded the use of digital tools and origination channels and created new methods that offset restrictions on their ability to meet with potential new customers in person. The service and installation of solar energy systems has continued during the COVID-19 pandemic. This reflects residential solar services' designation as an essential service in all of our service territories. In order to adhere to all applicable state and federal health and safety guidelines, we and our dealers have moved to a contact-free process for installers and service technicians. In addition, an increasing number of jurisdictional authorities, as well as local utilities, are accepting electronic submissions for permits, and inspections are being performed in many locations through video calls and other electronic means. Throughout the COVID-19 pandemic, we have seen minimal impact to our supply chain as our technicians and dealers have largely been able to successfully procure the equipment needed to service and install solar energy systems.

We cannot predict the full impact the COVID-19 pandemic or the significant disruption and volatility currently being experienced in the capital markets will have on our business, cash flows, liquidity, financial condition and results of operations at this time due to numerous uncertainties. The ultimate impact will depend on future developments, including, among other things, the ultimate duration of the COVID-19 virus, the distribution, acceptance and efficacy of the vaccine, the depth and duration of the economic downturn and other economic effects of the COVID-19 pandemic, the consequences of governmental and other measures designed to prevent the spread of the COVID-19 virus, actions taken by governmental authorities, customers, suppliers, dealers and other third parties, our ability and the ability of our customers, potential customers and dealers to adapt to operating in a changed environment and the timing and extent to which normal economic and operating conditions resume.

(2) Significant Accounting Policies

Use of Estimates

The application of GAAP in the preparation of the consolidated financial statements requires us to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience and on various other assumptions believed to be reasonable, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results could differ materially from those estimates.

Cash

We maintain cash, which consists principally of demand deposits, with investment-grade financial institutions. We are exposed to credit risk to the extent cash balances exceed amounts covered by the Federal Deposit Insurance Corporation ("FDIC"). As of December 31, 2020 and 2019, we had cash deposits of $199.6 million and $72.4 million, respectively, in excess of the FDIC's current insured limit of $250,000. We have not experienced any losses on our deposits of cash.

Restricted Cash

We record cash that is restricted as to withdrawal or use under the terms of certain contractual agreements as restricted cash. Our restricted cash primarily represents cash held to service certain payments under the Helios Issuer, LLC ("HELI"), Sunnova LAP Holdings, LLC ("LAPH"), Sunnova EZ-Own Portfolio, LLC ("EZOP"), Sunnova TEP IV-A, LLC ("TEPIVA"), Sunnova TEP IV-B, LLC ("TEPIVB"), Sunnova TEP Holdings, LLC ("TEPH"), Sunnova TEP II Holdings, LLC ("TEPIIH"), Helios II Issuer, LLC ("HELII"), Helios III Issuer, LLC ("HELIII"), Sunnova RAYS I Issuer, LLC ("RAYSI"), Sunnova TEP Inventory, LLC ("TEPINV"), Sunnova Sol Issuer, LLC ("SOLI"), Sunnova TEP IV-C, LLC ("TEPIVC"), Sunnova TEP IV-D, LLC ("TEPIVD"), Sunnova Helios IV Issuer, LLC ("HELIV"), Sunnova TEP IV-E, LLC ("TEPIVE"), Sunnova TEP IV-G, LLC ("TEPIVG"), Sunnova Asset Portfolio 8, LLC ("AP8") and Sunnova Sol II Issuer, LLC ("SOLII") financing arrangements (see Note 8, Long-Term Debt and Note 12, Redeemable Noncontrolling Interests and Noncontrolling Interests) and balances collateralizing outstanding letters of credit related to one of our operating leases for office space (see Note 16, Commitments and Contingencies). The following table presents the detail of restricted cash as recorded in other current assets and other assets in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Debt and inverter reserves	$ 93,889	$ 55,407
Tax equity reserves	72,426	9,904
Letters of credit for office lease	375	725
Other	1,344	770
Total (1)	$ 168,034	$ 66,806

(1) Of this amount, $73.0 million and $10.5 million is recorded in other current assets as of December 31, 2020 and 2019, respectively.

We are exposed to credit risk to the extent restricted cash balances exceed amounts covered by the FDIC. As of December 31, 2020 and 2019, we had restricted cash deposits of $163.8 million and $63.6 million, respectively, in excess of the FDIC's current insured limit of $250,000. We have not experienced any losses on our deposits of restricted cash.

Accounts Receivable

Accounts Receivable—Trade. Accounts receivable—trade primarily represents trade receivables from residential customers that are generally collected in the subsequent month. Accounts receivable—trade is recorded net of an allowance for credit losses, which is based on our assessment of the collectability of customer accounts based on the best available data at the time. We review the allowance by considering factors such as historical experience, customer credit rating, contractual term, aging category and current economic conditions that may affect a customer's ability to pay to identify customers with potential disputes or collection issues. We write off accounts receivable when we deem them uncollectible. As of December 31, 2020, we have not experienced a significant increase in delinquent customer accounts and have not made any significant adjustments to

our allowance for credit losses related to accounts receivable—trade as a result of the COVID-19 pandemic. The following table presents the changes in the allowance for credit losses recorded against accounts receivable—trade, net in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Balance at beginning of period	$ 960	$ 723
Impact of ASC 326 adoption	(240)	—
Provision for current expected credit losses	1,878	—
Bad debt expense	—	1,645
Write off of uncollectible accounts	(1,741)	(1,498)
Recoveries	55	90
Balance at end of period	$ 912	$ 960

Accounts Receivable—Other. Accounts receivable—other primarily represents receivables related to the sale of inventory.

Inventory

Inventory is stated at the lower of cost and net realizable value using the first-in, first-out method. Inventory primarily represents raw materials, such as energy storage systems, photovoltaic modules, inverters, meters and other associated equipment purchased. These materials are typically sold to dealers or held for use as original parts on new solar energy systems or replacement parts on existing solar energy systems. We remove these items from inventory and record the transaction in typically one of these manners: (a) expense to operations and maintenance expense when installed as a replacement part for a solar energy system, (b) expense to cost of sales if sold directly or (c) capitalize to property and equipment when installed as an original part on a solar energy system. We periodically evaluate our inventory for unusable and obsolete items based on assumptions about future demand and market conditions. Based on this evaluation, provisions are made to write inventory down to market value. The following table presents the detail of inventory as recorded in other current assets in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Energy storage systems and components	$ 18,122	$ 33,443
Modules and inverters	83,904	10,137
Meters	563	169
Total	$ 102,589	$ 43,749

As of December 31, 2020 and 2019, we recorded accrued expenses of $8.9 million and $15.2 million, respectively, for inventory purchases.

Concentrations of Risk

Financial instruments that potentially subject us to concentrations of credit risk consist primarily of cash, restricted cash, accounts receivable and notes receivable. The concentrated risk associated with cash and restricted cash is mitigated by our policy of banking with creditworthy institutions. Typically, amounts on deposit with certain banking institutions exceed FDIC insurance limits. We do not generally require collateral or other security to support accounts receivable. To reduce credit risk related to our relationship with our dealers, management performs periodic credit evaluations and ongoing assessments of our dealers' financial condition.

Concentration of Services and Equipment from Dealers

We utilize a network of approximately 150 dealers as of December 31, 2020. During the year ended December 31, 2020, two dealers accounted for approximately 34% and 13%, respectively, of our total expenditures to dealers relating to costs incurred for solar energy systems. During the year ended December 31, 2019, two dealers accounted for approximately 49%

and 10%, respectively, of our total expenditures to dealers. During the year ended December 31, 2018, one dealer accounted for approximately 58% of our total expenditures to dealers. No other dealer accounted for more than 10% of our expenditures for solar energy systems during the years ended December 31, 2020, 2019 and 2018.

Dealer Commitments

We enter into exclusivity and other similar agreements with certain key dealers pursuant to which we agree to pay an incentive if such dealers install a certain minimum number of solar energy systems within specified periods. These incentives are recorded in other assets in the consolidated balance sheets and are amortized to general and administrative expense in the consolidated statements of operations generally over the term of the customer agreements, which is estimated at an average of 23 years. See Note 16, Commitments and Contingencies.

Fair Value of Financial Instruments

Fair value is an exit price representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. As such, fair value is a market-based measurement that should be determined based on assumptions market participants would use in pricing an asset or a liability. Valuation techniques used to measure fair value must maximize the use of observable inputs and minimize the use of unobservable inputs. ASC 820 establishes a three-tier fair value hierarchy, which prioritizes inputs that may be used to measure fair value as follows:

- Level 1—Observable inputs that reflect unadjusted quoted market prices in active markets for identical assets or liabilities that are accessible at the measurement date.
- Level 2—Observable inputs other than Level 1 prices, such as quoted market prices for similar assets or liabilities in active markets, quoted market prices 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 assets or liabilities.
- Level 3—Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities.

In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, the level in the fair value hierarchy must be determined based on the lowest level input that is significant to the fair value measurement. An assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and consideration of factors specific to the asset or liability. Our financial instruments include accounts receivable, notes receivable, accounts payable, accrued expenses, long-term debt and interest rate swaps. The carrying values of accounts receivable, accounts payable and accrued expenses approximate the fair values due to the fact that they are short-term in nature (Level 1). We estimate the fair value of our customer notes receivable based on interest rates currently offered under the loan program with similar maturities and terms (Level 3). We estimate the fair value of our fixed-rate long-term debt based on interest rates currently offered for debt with similar maturities and terms (Level 3). We determine the fair values of the interest rate derivative transactions based on a discounted cash flow method using contractual terms of the transactions. The floating interest rate is based on observable rates consistent with the frequency of the interest cash flows (Level 2). See Note 7, Customer Notes Receivable, Note 8, Long-Term Debt and Note 9, Derivative Instruments.

Derivative Instruments

Our derivative instruments consist of interest rate swaps that are not designated as cash flow hedges or fair value hedges under accounting guidance. We use interest rate swaps to manage our net exposure to interest rate changes. We record the derivatives in other current assets, other assets, other current liabilities and other long-term liabilities, as appropriate, in the consolidated balance sheets and the changes in fair value are recorded in interest expense, net in the consolidated statements of operations. We include unrealized gains and losses on derivatives as a non-cash reconciling item in operating activities in the consolidated statements of cash flows. We include realized gains and losses on derivatives as a change in components of operating assets and liabilities in operating activities in the consolidated statements of cash flows. See Note 9, Derivative Instruments.

Revenue

The following table presents the detail of revenue as recorded in the consolidated statements of operations:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
PPA revenue	$ 65,760	$ 48,041	$ 38,950
Lease revenue	51,650	40,191	33,079
Solar renewable energy certificate revenue	35,747	38,453	30,630
Loan revenue	3,032	1,645	933
Other revenue	4,631	3,226	790
Total	$ 160,820	$ 131,556	$ 104,382

We recognize revenue from contracts with customers as we satisfy our performance obligations at a transaction price reflecting an amount of consideration based upon an estimated rate of return. We express this rate of return as the solar rate per kilowatt hour ("kWh") in the customer contract. The amount of revenue we recognize does not equal customer cash payments because we satisfy performance obligations ahead of cash receipt or evenly as we provide continuous access on a stand-ready basis to the solar energy system. We reflect the differences between revenue recognition and cash payments received in accounts receivable, other assets or deferred revenue, as appropriate. Revenue allocated to remaining performance obligations represents contracted revenue we have not yet 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 $1.6 billion as of December 31, 2020, of which we expect to recognize approximately 4% over the next 12 months. We do not expect the annual recognition to vary significantly over approximately the next 20 years as the vast majority of existing solar service agreements have at least 20 years remaining, given the average age of the fleet of solar energy systems under contract is less than three years.

PPAs. Customers purchase electricity from us under PPAs. Pursuant to ASC 606, we recognize revenue based upon the amount of electricity delivered as determined by remote monitoring equipment at solar rates specified under the PPAs. All customers must pass our credit evaluation process. The PPAs generally have a term of 25 years with an opportunity for customers to renew for up to an additional 10 years, via two five-year renewal options.

Leases. We are the lessor under lease agreements for solar energy systems and energy storage systems, which do not meet the definition of a lease under ASC 842 and are accounted for as contracts with customers under ASC 606. We recognize revenue on a straight-line basis over the contract term as we satisfy our obligation to provide continuous access to the solar energy system. All customers must pass our credit evaluation process. The lease agreements generally have a term of 25 years with an opportunity for customers to renew for up to an additional 10 years, via two five-year renewal options.

We provide customers under our lease agreements a performance guarantee that each solar energy system will achieve a certain specified minimum solar energy production output, which is a significant proportion of its expected output. The specified minimum solar energy production output may not be achieved due to natural fluctuations in the weather or equipment failures from exposure and wear and tear outside of our control, among other factors. We determine the amount of the guaranteed output based on a number of different factors, including: (a) the specific site information relating to the tilt of the panels, azimuth (a horizontal angle measured clockwise in degrees from a reference direction) of the panels, size of the system, and shading on site; (b) the calculated amount of available irradiance (amount of energy for a given flat surface facing a specific direction) based on historical average weather data and (c) the calculated amount of energy output of the solar energy system. While actual irradiance levels can significantly change year over year due to natural fluctuations in the weather, we expect the levels to average out over the term of a 25-year lease and to approximate the levels used in determining the amount of the performance guarantee. Generally, weather fluctuations are the most likely reason a solar energy system may not achieve a certain specified minimum solar energy production output.

If the solar energy system does not produce the guaranteed production amount, we are required to refund a portion of the previously remitted customer payments, where the repayment is calculated as the product of (a) the shortfall production amount and (b) the dollar amount (guaranteed rate) per kWh that is fixed throughout the term of the contract. These remittances of a customer's payments, if needed, are payable in January following the end of the first three years of the solar energy system's placed in service date and then every annual period thereafter. See Note 16, Commitments and Contingencies.

Solar Renewable Energy Certificates. Each solar renewable energy certificate ("SREC") represents one megawatt hour (1,000 kWh) generated by a solar energy system. SRECs can be sold with or without the actual electricity associated with the renewable-based generation source. We account for the SRECs we generate from our solar energy systems as governmental incentives with no costs incurred to obtain them and do not consider those SRECs output of the underlying solar energy systems. We classify these SRECs as inventory held until sold and delivered to third parties. As we did not incur costs to obtain these governmental incentives, the inventory carrying value for the SRECs was $0 as of December 31, 2020 and 2019. We enter into economic hedges related to expected production of SRECs through forward contracts. The contracts require us to physically deliver the SRECs upon settlement. We recognize the related revenue under ASC 606 upon satisfaction of the performance obligation to transfer the SRECs to the stated counterparty. Payments are typically received within one month of transferring the SREC to the counterparty. The costs related to the sales of SRECs are generally limited to broker fees (recorded in cost of revenue—other), which are only paid in connection with certain transactions. In certain circumstances we are required to purchase SRECs on the open market to fulfill minimum delivery requirements under our forward contracts.

Loans. See discussion of loan revenue in the "*Loans*" section below.

Other Revenue. Other revenue includes certain state and utility incentives, revenue from the direct sale of energy storage systems to customers and sales of service plans. We recognize revenue from state and utility incentives in the periods in which they are earned. We recognize revenue from the direct sale of energy storage systems in the period in which the storage components are placed in service. Service plans are available to customers whose solar energy system was not originally sold by Sunnova. We recognize revenue from service plan contracts over the life of the contract, which is typically five years or ten years.

Loans

We offer a loan program, under which the customer finances the purchase of a solar energy system or energy storage system through a solar service agreement, typically for a term of 10, 15 or 25 years. We recognize cash payments received from customers on a monthly basis under our loan program (a) as interest income, to the extent attributable to earned interest on the contract that financed the customer's purchase of the solar energy system or energy storage system; (b) as a reduction of a note receivable on the balance sheet, to the extent attributable to a return of principal (whether scheduled or prepaid) on the contract that financed the customer's purchase of the solar energy system or energy storage system; and (c) as revenue, to the extent attributable to payments for operations and maintenance services provided by us. To qualify for the loan program, a customer must pass our credit evaluation process, which requires the customer to have a minimum FICO® score of 650 to 720 depending on certain circumstances, and we secure the loans with the solar energy systems or energy storage systems financed. The credit evaluation process is performed once for each customer at the time the customer is entering into the solar service agreement with us.

Our investments in solar energy systems and energy storage systems related to the loan program that are not yet placed in service are recorded in other assets in the consolidated balance sheets and are transferred to customer notes receivable upon being placed in service. Customer notes receivable are recorded at amortized cost, net of an allowance for credit losses (as described below), in other current assets and customer notes receivable in the consolidated balance sheets. Accrued interest receivable related to our customer notes receivable is recorded in accounts receivable—trade, net in the consolidated balance sheets. Interest income from customer notes receivable is recorded in interest income in the consolidated statements of operations. The amortized cost of our customer notes receivable is equal to the principal balance of customer notes receivable outstanding and does not include accrued interest receivable. Customer notes receivable continue to accrue interest until they are written off against the allowance, which occurs when the balance is 180 days or more past due unless the balance is in the process of collection. Customer notes receivable are considered past due one day after the due date based on the contractual terms of the loan agreement. In all cases, customer notes receivable balances are placed on a nonaccrual status or written off at an earlier date when they are deemed uncollectible. Expected recoveries do not exceed the aggregate of amounts previously written off and expected to be written off. Accrued interest receivable for customer notes receivable placed on a nonaccrual status is recorded as a reduction to interest income. Interest received on such customer notes receivable is accounted for on a cash basis until the customer notes receivable qualifies for the return to accrual status. Customer notes receivable are returned to accrual status when there is no longer any principal or interest amounts past due and future payments are reasonably assured.

The allowance for credit losses is deducted from the customer notes receivable amortized cost to present the net amount expected to be collected. It is measured on a collective (pool) basis when similar risk characteristics (such as financial asset type, customer credit rating, contractual term and vintage) exist. In determining the allowance for credit losses, we identify customers with potential disputes or collection issues and consider our historical level of credit losses and current economic trends that might impact the level of future credit losses. Adjustments to historical loss information are made for differences in

current loan-specific risk characteristics, such as differences in underwriting standards. Expected credit losses are estimated over the contractual term of the loan agreements based on the best available data at the time, and adjusted for expected prepayments when appropriate. The contractual term excludes expected extensions, renewals and modifications unless either of the following applies: (a) we have a reasonable expectation at the reporting date that a troubled debt restructuring will be executed with an individual customer or (b) the extension or renewal options are included in the original or modified contract at the reporting date and are not unconditionally cancelable by us. As of December 31, 2020, we have not experienced a significant increase in delinquent customer notes receivable and have not made any significant adjustments to our allowance for credit losses related to loans as a result of the COVID-19 pandemic. See Note 7, Customer Notes Receivable.

Deferred Revenue

Deferred revenue consists of amounts for which the criteria for revenue recognition have not yet been met and includes (a) down payments and partial or full prepayments from customers, (b) differences due to the timing of energy production versus billing for certain types of PPAs and (c) payments for unfulfilled performance obligations from the loan program which will be recognized on a straight-line basis over the remaining term of the respective solar service agreements. Deferred revenue was $34.0 million as of December 31, 2018. The following table presents the detail of deferred revenue as recorded in other current liabilities and other long-term liabilities in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Loans	$ 93,859	$ 46,958
PPAs and leases	11,787	8,895
SRECs	1,163	3,000
Total (1)	$ 106,809	$ 58,853

(1) Of this amount, $3.8 million and $2.1 million is recorded in other current liabilities as of December 31, 2020 and 2019, respectively.

During the years ended December 31, 2020 and 2019, we recognized revenue of $7.3 million and $3.0 million, respectively, from amounts recorded in deferred revenue at the beginning of the respective years.

Performance Guarantee Obligations

We guarantee certain specified minimum solar energy production output under our leases and loan agreements, generally over a term of 10, 15 or 25 years. The amounts are generally measured and credited to the customer's account in January following the end of the first three years of the solar energy system's placed in service date and then every annual period thereafter. We monitor the solar energy systems to ensure these outputs are achieved. We evaluate if any amounts are due to our customers based upon not meeting the guaranteed solar energy production outputs at each reporting period end. For leases, these estimated amounts are recorded as a reduction to revenues from customers and a current or long-term liability, as applicable. For loans, these estimated amounts are recorded as an increase to cost of revenue—other and a current or long-term liability, as applicable. See Note 16, Commitments and Contingencies.

Property and Equipment

Solar Energy Systems. Depreciation and amortization of solar energy systems are calculated using the straight-line method over the estimated useful lives of the solar energy systems and are recorded in cost of revenue—depreciation. While solar energy systems are in the design, construction and installation stages prior to being placed in service, the development of the systems is accounted for through construction in progress. The components of the design, construction and installation of the solar energy systems, which are installed on or near residential rooftops, are as follows:

- Dealer's costs (engineering, procurement and construction)
- Direct costs (costs directly related to a solar energy system)
- Indirect costs (costs incurred in the design, construction and installation of the solar energy system but not directly associated with a particular asset)

Solar energy systems are carried at the cost of acquisition or construction (including design and installation) less certain utility rebates and federal and state tax incentives (including federal investment tax credits, known as "Section 48(a) ITCs") and

are depreciated over the useful lives of the assets. We account for the Section 48(a) ITCs in accordance with the deferral gross up method, thus reducing the cost basis of the qualifying solar energy systems by the rate applicable to Section 48(a) ITCs. However, as discussed in Note 10, Income Taxes, we have a full valuation allowance, which is recorded against deferred income taxes and requires the gross up of the basis of the qualifying solar energy systems back to the full value. Depreciation begins when a solar energy system is placed in service. Costs associated with repair and maintenance of a solar energy system are expensed as incurred. Costs associated with improvements to a solar energy system, which extend the life, increase the capacity or improve the efficiency of the systems, are capitalized and depreciated over the remaining life of the asset.

Property and Equipment, Excluding Solar Energy Systems. Property and equipment, including information technology system projects, computers and equipment, leasehold improvements, furniture and fixtures, vehicles and other property and equipment are stated at cost, less accumulated depreciation and amortization. Depreciation and amortization are calculated using the straight-line method over the estimated useful lives of the respective assets and are recorded in general and administrative expense. Leasehold improvements are amortized over the shorter of the lease term or the estimated useful lives. Upon disposition, the cost and related accumulated depreciation of the assets are removed from property and equipment and the resulting gain or loss is reflected in the consolidated statements of operations. Repair and maintenance costs are expensed as incurred.

Intangibles

Our intangible assets primarily consist of a software license and a trademark related to the design process of solar energy systems and are stated at cost less accumulated amortization. We amortize intangible assets to general and administrative expense over a useful life of three years using the straight-line method. The following table presents the detail of intangible assets as recorded in other assets in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Software license	$ 331	$ 331
Trademark	68	68
Other	88	88
Intangibles, gross	487	487
Less: accumulated amortization	(449)	(420)
Intangibles, net	$ 38	$ 67

As of December 31, 2020, amortization expense related to intangible assets to be recognized is $29,000 for 2021, $9,000 for 2022 and $0 thereafter.

Deferred Financing Costs

Deferred financing costs are capitalized and amortized to interest expense, net over the term of the related debt using the effective interest method for term loans or the straight-line method for revolving credit facilities. The unamortized balance of deferred financing costs is recorded in current portion of long-term debt, current portion of long-term debt—affiliates, long-term debt, net and long-term debt, net—affiliates (see Note 8, Long-Term Debt) for term loans or in other current assets and other assets for revolving credit facilities and debt and equity transactions not yet completed, in the consolidated balance sheets. The following table presents the changes in net deferred financing costs:

	As of December 31,	
	2020	2019
	(in thousands)	
Balance at beginning of period	$ 25,621	$ 22,712
Capitalized	23,202	12,731
Amortized	(9,031)	(9,822)
Balance at end of period	$ 39,792	$ 25,621

Asset Retirement Obligation ("ARO")

We have AROs arising from contractual requirements to perform certain asset retirement activities at the time the solar energy systems are disposed. We recognize an ARO at the point an obligating event takes place, typically when the solar energy system is placed in service. An asset is considered retired when it is permanently taken out of service, such as through a sale or disposal.

The liability is initially measured at fair value (as a Level 3 measurement) based on the present value of estimated removal and restoration costs and subsequently adjusted for changes in the underlying assumptions and for accretion expense. The accretion expense is recognized in general and administrative expense in the consolidated statements of operations. The corresponding asset retirement costs are capitalized as part of the carrying amount of the solar energy system and depreciated (for which the expense is recorded in cost of revenue—depreciation) over the solar energy system's remaining useful life. See Note 6, AROs.

Warranty Obligations

In connection with our solar service agreements, we warrant the solar energy systems against defects in workmanship, against component or materials breakdowns and against any damages to rooftops during the installation process. The dealers' warranties on the workmanship, including work during the installation process, and the manufacturers' warranties over component parts have a range of warranty periods which are generally 10 to 25 years. As of December 31, 2020 and 2019, we recorded a warranty reserve of $0 and an insignificant amount, respectively.

Advertising Costs

We expense advertising costs as they are incurred to general and administrative expense in the consolidated statements of operations. We recognized advertising expense of $195,000, $1.0 million and $191,000 during the years ended December 31, 2020, 2019 and 2018, respectively.

Defined Contribution Plan

In April 2015, we established the Sunnova Energy Corporation 401(k) Profit Sharing Plan ("401(k) plan") available to employees who meet the 401(k) plan's eligibility requirements. The 401(k) plan allows participants to contribute a percentage of their compensation to the 401(k) plan up to the limits set forth in the Internal Revenue Code. We may make additional discretionary contributions to the 401(k) plan as a percentage of total participant contributions, subject to established limits. Participants are fully vested in their contributions and any safe harbor matching contributions we make. We made safe harbor matching contributions of $820,000, $736,000 and $551,000 during the years ended December 31, 2020, 2019 and 2018, respectively, which are recorded in general and administrative expense in the consolidated statements of operations.

Income Taxes

We account for income taxes under an asset and liability approach. Deferred income taxes reflect the impact of temporary differences between assets and liabilities recognized for financial reporting purposes and the amounts recognized for income tax reporting purposes, net operating loss, carryforwards, and other tax credits measured by applying currently enacted tax laws. A valuation allowance is provided when necessary to reduce deferred tax assets to an amount that is more likely than not to be realized.

We determine whether a tax position taken in a filed tax return, planned to be taken in a future tax return or claim, or otherwise subject to interpretation, 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, or prospectively approved when such approval may be sought in advance. 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 available evidence indicates it is more likely than not 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 or obligation as the largest amount that is more than 50% likely of being realized upon ultimate settlement. See Note 10, Income Taxes.

Comprehensive Income (Loss)

We are required to report comprehensive income (loss), which includes net income (loss) as well as other comprehensive income (loss). There were no differences between comprehensive loss and net loss as reported in the consolidated statements of operations for the periods presented.

Impairment of Long-Lived Assets

Long-lived assets, such as property and equipment, are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset be tested for possible impairment, we first compare undiscounted cash flows expected to be generated by that asset or asset group to its carrying value. If the carrying value of the long-lived asset or asset group is not recoverable on an undiscounted cash flow basis, impairment is recognized to the extent the carrying value exceeds its fair value. Fair value is determined through various valuation techniques including discounted cash flow models, quoted market values and third-party independent appraisals as considered necessary. Impairment charges are recorded in operations and maintenance expense for solar energy systems that relate to revenue from contracts with customers and general and administrative expense for all other property and equipment and other long-lived assets. During the years ended December 31, 2020, 2019 and 2018, we recognized net losses on disposals and impairment expense of $5.8 million, $1.8 million and $7.6 million, respectively, of which $5.8 million, $1.8 million and $7.4 million, respectively, is recorded in operations and maintenance expense and an insignificant amount is recorded in general and administrative expense. Of the total amount of net losses on disposals and impairment expense for the years ended December 31, 2020, 2019 and 2018, $31,000, $54,000 and $5.8 million, respectively, is related to natural disaster losses. See Note 4, Natural Disaster Losses.

Segment Information

Operating segments are defined as components of a company about which separate financial information is available that is evaluated regularly by the chief operating decision maker, or decision-making group, in deciding how to allocate resources and in assessing performance. Our chief operating decision maker is the chief executive officer. Based on the financial information presented to and reviewed by our chief operating decision maker in deciding how to allocate resources and in assessing performance, we have determined we have a single reportable segment: solar energy products and services. Our principal operations, revenue and decision-making functions are located in the U.S.

Basic and Diluted Net Income (Loss) Per Share

Our basic net income (loss) per share attributable to common stockholders is calculated by dividing the net income (loss) attributable to the common stockholders by the weighted-average number of shares of common stock outstanding for the period. Cumulative dividends owed to convertible preferred stockholders (as defined in Note 13, Stockholders' Equity) decrease (increase) the income (loss) available to common stockholders.

The diluted net income (loss) per share attributable to common stockholders is computed by giving effect to all potential common stock equivalents outstanding for the period determined using the treasury stock method or the if-converted method, as applicable. During periods in which we incur a net loss attributable to common stockholders, stock options are considered to be common stock equivalents but are excluded from the calculation of diluted net loss per share attributable to common stockholders as the effect is antidilutive. See Note 15, Basic and Diluted Net Loss Per Share.

Equity-Based Compensation

We account for equity-based compensation, which requires the measurement and recognition of compensation expense related to the fair value of equity-based compensation awards. Equity-based compensation expense includes the compensation cost for all share-based awards granted to employees, consultants and members of our board of directors (our "Board") based on the grant date fair value estimate. This also applies to awards modified, repurchased or canceled during the periods reported. We use the Black-Scholes option-pricing model to measure the fair value of stock options at the measurement date. We use the closing price of our common stock on the grant date to measure the fair value of restricted stock units at the measurement date. We account for forfeitures as they occur. Equity-based compensation expense is recorded in general and administrative expense in the consolidated statements of operations. See Note 14, Equity-Based Compensation.

Redeemable Noncontrolling Interests and Noncontrolling Interests

Noncontrolling interests represent third-party interests in the net assets of certain consolidated subsidiaries (the "tax equity entities"). For these tax equity entities, we have determined the appropriate methodology for calculating the noncontrolling interest balances that reflects the substantive economic arrangements in the operating agreements is a balance sheet approach using the hypothetical liquidation at book value ("HLBV") method. Under the HLBV method, the amounts reported as noncontrolling interests in the consolidated balance sheets represent the amounts third-party investors would hypothetically receive at each balance sheet date under the liquidation provisions of the operating agreements, assuming the net assets of the subsidiaries were liquidated at amounts determined in accordance with GAAP and distributed to the investors. The noncontrolling interest balances in these subsidiaries are reported as a component of equity in the consolidated balance sheets. The amount of income or loss allocated to noncontrolling interests in the results of operations for the subsidiaries using HLBV are determined as the difference in the noncontrolling interest balances in the consolidated balance sheets at the start and end of each reporting period, after taking into account any capital transactions between the subsidiaries and the third-party investors. Factors used in the HLBV calculation include GAAP income (loss), taxable income (loss), capital contributions, investment tax credits, distributions and the stipulated targeted investor return specified in the subsidiaries' operating agreements. Changes in these factors could have a significant impact on the amounts that investors would receive upon a hypothetical liquidation. The use of the HLBV method to allocate income (loss) to the noncontrolling interest holders may create volatility in the consolidated statements of operations as the application of HLBV can drive changes in net income or loss attributable to noncontrolling interests from period to period. We classify certain noncontrolling interests with redemption features that are not solely within our control outside of permanent equity in the consolidated balance sheets. Redeemable noncontrolling interests are reported using the greater of the carrying value at each reporting date as determined by the HLBV method or the estimated redemption value at the end of each reporting period. Estimating the redemption value of the redeemable noncontrolling interests requires the use of significant assumptions and estimates, such as projected future cash flows at the time the redemption feature can be exercised. The redeemable noncontrolling interests and noncontrolling interests are recorded net of related issuance costs and net of the basis difference in the solar energy systems transferred to the tax equity entities in the consolidated balance sheets. This basis difference is reflected as equity in subsidiaries attributable to parent in the consolidated statements of redeemable noncontrolling interests and equity.

New Accounting Guidance

New accounting pronouncements are issued by the FASB or other standard setting bodies and are adopted as of the specified effective date.

In December 2019, the FASB issued ASU No. 2019-12, *Income Taxes: Simplifying the Accounting for Income Taxes*, to remove certain exceptions and clarify and amend the existing guidance. This ASU is effective for annual and interim reporting periods in 2021. We adopted this ASU in January 2021 and determined it did not have a significant impact on our consolidated financial statements and related disclosures.

In March 2020, the FASB issued ASU No. 2020-03, *Codification Improvements to Financial Instruments*, to clarify and amend the existing guidance. The amendments in this ASU are effective either upon issuance of this ASU or for annual and interim reporting periods in 2020. We adopted this ASU in January 2020 and determined it did not have a significant impact on our consolidated financial statements and related disclosures.

In March 2020, the FASB issued ASU No. 2020-04, *Reference Rate Reform: Facilitation of the Effects of Reference Rate Reform on Financial Reporting*, to provide temporary optional expedients and exceptions for applying GAAP to contracts, hedging relationships and other transactions affected by reference rate reform. In 2021, the FASB issued ASU No. 2021-01, *Reference Rate Reform: Scope*, to refine the scope of ASC 848, *Reference Rate Reform*, and clarify guidance related to certain optional expedients and exceptions. This ASU and the supplemental ASU are effective beginning in March 2020 or prospectively from a date through December 2022. We adopted this ASU in October 2020 and determined it did not have a significant impact on our consolidated financial statements and related disclosures.

In August 2020, the FASB issued ASU No. 2020-06, *Debt—Debt with Conversion and Other Options and Derivatives and Hedging—Contracts in Entity's Own Equity: Accounting for Convertible Instruments and Contracts in an Entity's Own Equity*, to simplify the accounting for certain financial instruments with characteristics of liabilities and equity by removing the separation models for convertible debt with a cash conversion feature and convertible instruments with a beneficial conversion feature. This ASU also expands the required disclosures related to the terms and features of convertible instruments, how the instruments have been reported and information about events, conditions and circumstances that can affect how to assess the amount or timing of an entity's future cash flows related to those instruments. This ASU is effective for annual and interim

reporting periods in 2022. We are currently evaluating the impact of this ASU on our consolidated financial statements and related disclosures.

In October 2020, the FASB issued ASU No. 2020-10, *Codification Improvements*, to clarify and amend the existing guidance. This ASU is effective for annual and interim reporting periods in 2021. We adopted this ASU in January 2021 and determined it did not have a significant impact on our consolidated financial statements and related disclosures.

(3) Property and Equipment

The following table presents the detail of property and equipment, net as recorded in the consolidated balance sheets:

		As of December 31,	
	Useful Lives	2020	2019
	(in years)	(in thousands)	
Solar energy systems	35	$ 2,298,427	$ 1,689,457
Construction in progress		160,618	143,449
Asset retirement obligations	30	35,532	26,967
Information technology systems	3	35,077	28,320
Computers and equipment	3-5	1,727	1,499
Leasehold improvements	3-6	2,770	1,014
Furniture and fixtures	7	811	735
Vehicles	4-5	1,638	1,632
Other	5-6	157	146
Property and equipment, gross		2,536,757	1,893,219
Less: accumulated depreciation		(213,588)	(148,159)
Property and equipment, net		$ 2,323,169	$ 1,745,060

Solar Energy Systems. The amounts included in the above table for solar energy systems and substantially all the construction in progress relate to our customer contracts (including PPAs and leases). These assets had accumulated depreciation of $188.8 million and $130.9 million as of December 31, 2020 and 2019, respectively.

(4) Natural Disaster Losses

We have insurance coverage related to property damage and business interruption. When a solar energy system is damaged by a natural disaster, we impair all or a portion of the net book value to operations and maintenance expense in the period for which the amount is probable and can be reasonably estimated. Insurance proceeds for property damage, up to the amount of impairment expense recorded for property damage, are estimated and recorded as a receivable (recorded in accounts receivable—other in the consolidated balance sheet) and a reduction to operations and maintenance expense when the receipt of the proceeds is deemed probable. Insurance proceeds for property damage that exceed the amount of impairment expense recorded and insurance proceeds related to business interruption are recorded when received, as a reduction to operations and maintenance expense. Costs incurred to repair or replace a solar energy system are capitalized (recorded in property and equipment, net in the consolidated balance sheet) and are classified as an investing cash outflow in the consolidated statement of cash flows. Insurance proceeds received for property damage are classified as an investing cash inflow in the consolidated statement of cash flows. Insurance proceeds received for business interruption are classified as an operating cash inflow in the consolidated statement of cash flows.

Hurricane Maria in Puerto Rico. In September 2017, Hurricane Maria made landfall in Puerto Rico causing catastrophic wind and water damage to the island's infrastructure, residences and businesses. A majority of Puerto Rico was left without electrical power. In addition, other basic utility and infrastructure services (such as water, communications, ports and other transportation networks) were severely curtailed and the government imposed a mandatory curfew. Prior to the hurricane, we implemented certain business continuity measures. Although our critical business systems experienced minimal outages from the hurricane, our physical operations in Puerto Rico were significantly disrupted primarily due to the lack of electricity and communications and limited accessibility.

Throughout 2017 and 2018, we completed assessments of solar energy systems in Puerto Rico and submitted requests to the insurance company for recoveries for damage to solar energy systems and business interruption. However, we did not

complete all reasonable estimates until December 2018 due to the overall impact of the hurricane on Puerto Rico. Although our solar energy systems are distributed energy sources, most are dependent upon complementary grid power to operate and all are dependent upon cellular communication services for operations and monitoring and evaluation. The outage was the largest and longest in U.S. history. As such, many repairs and estimates of damages and lost customers lagged the restoration of these services. Given the loss of grid power and cellular communication and the fact that much of Puerto Rico was not navigable, assessment of our solar energy systems and status of our customers continued through the fourth quarter of 2018. The final settlement with the insurance company for property damage was completed and those funds were received in the fourth quarter of 2018.

As of December 31, 2018, we received $9.8 million of insurance proceeds, of which $5.8 million represented recoveries for damage to solar energy systems and $4.0 million represented recoveries for business interruption. During 2017 and 2018, we reassessed the collectability of the receivables related to the solar energy systems in Puerto Rico and determined there were no significant write-offs or allowances needed.

Wildfires in California. In October 2017 and November 2018, major wildfires burned throughout California and damaged several customers' homes and solar energy systems. These wildfires did not have a significant impact on our results of operations or financial position. The related impairments and insurance recoveries are included in the table below.

Typhoon Yutu in Saipan. In October 2018, typhoon Yutu impacted Saipan causing massive wind and water damage to the island's infrastructure, residences and businesses. Several customer homes and solar energy systems were damaged; however, typhoon Yutu did not have a significant impact on our results of operations or financial position. The related impairments and insurance recoveries are included in the table below.

As of December 31, 2019, substantially all solar energy systems damaged by a natural disaster that were deemed economical to repair had been repaired. The impact of the natural disaster losses as recorded in the consolidated statements of operations for the years ended December 31, 2020, 2019 and 2018 is as follows:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Operations and maintenance expense:			
Impairment of solar energy systems due to natural disaster losses	$ —	$ —	$ 5,840
Insurance proceeds received/expected to be received—property damage	31	54	(53)
Insurance proceeds received—business interruption	—	—	(2,693)
Other natural disaster-related charges	—	—	1,679
General and administrative expense:			
Other natural disaster-related charges	—	—	750
Total	$ 31	$ 54	$ 5,523

(5) Detail of Certain Balance Sheet Captions

The following table presents the detail of other current assets as recorded in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Inventory	$ 102,589	$ 43,749
Restricted cash	73,020	10,474
Current portion of customer notes receivable	24,035	13,758
Other prepaid assets	8,645	7,380
Prepaid inventory	3,352	96,167
Deferred receivables	2,678	1,506
Current portion of other notes receivable	853	982
Other	3	—
Total	$ 215,175	$ 174,016

The following table presents the detail of other assets as recorded in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Restricted cash	$ 95,014	$ 56,332
Construction in progress - customer notes receivable	85,604	37,137
Exclusivity and other bonus arrangements with dealers, net	55,709	32,791
Straight-line revenue adjustment, net	33,411	24,852
Other	24,634	18,600
Total	$ 294,372	$ 169,712

The following table presents the detail of other current liabilities as recorded in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Interest payable	$ 17,718	$ 14,680
Deferred revenue	3,754	2,086
Current portion of performance guarantee obligations	3,308	4,067
Current portion of lease liability	1,206	561
Other	27	410
Total	$ 26,013	$ 21,804

(6) AROs

AROs consist primarily of costs to remove solar energy system assets and costs to restore the solar energy system sites to the original condition, which we estimate based on current market rates. For each solar energy system, we recognize the fair value of the ARO as a liability and capitalize that cost as part of the cost basis of the related solar energy system. The related assets are depreciated on a straight-line basis over 30 years, which is the estimated average time a solar energy system will be installed in a location before being removed, and the related liabilities are accreted to the full value over the same period of time. We revise our estimated future liabilities based on recent actual experiences, including third party cost estimates, average size of solar energy systems and inflation rates, which we evaluate at least annually. Changes in our estimated future liabilities are recorded as either a reduction or addition in the carrying amount of the remaining unamortized asset and the ARO and either decrease or increase our depreciation and accretion expense amounts prospectively. The following table presents the changes in

AROs as recorded in other long-term liabilities in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Balance at beginning of period	$ 31,053	$ 20,033
Additional obligations incurred	8,633	4,641
Accretion expense	2,186	1,443
Change in estimate	—	4,983
Other	(84)	(47)
Balance at end of period	$ 41,788	$ 31,053

(7) Customer Notes Receivable

We offer a loan program, under which the customer finances the purchase of a solar energy system or energy storage system through a solar service agreement for a term of 10, 15 or 25 years. The following table presents the detail of customer notes receivable as recorded in the consolidated balance sheets and the corresponding fair values:

	As of December 31,	
	2020	2019
	(in thousands)	
Customer notes receivable	$ 555,089	$ 312,823
Allowance for credit losses	(17,668)	(1,091)
Customer notes receivable, net (1)	$ 537,421	$ 311,732
Estimated fair value, net	$ 548,238	$ 314,222

(1) Of this amount, $24.0 million and $13.8 million is recorded in other current assets as of December 31, 2020 and 2019, respectively.

The following table presents the changes in the allowance for credit losses related to customer notes receivable as recorded in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Balance at beginning of period	$ 1,091	$ 710
Impact of ASC 326 adoption	9,235	—
Provision for current expected credit losses (1)	7,785	—
Bad debt expense	—	419
Write off of uncollectible accounts	(443)	(38)
Balance at end of period	$ 17,668	$ 1,091

(1) In addition, we recognized $184,000 of provision for current expected credit losses during the year ended December 31, 2020 related to our long-term receivables for our leases.

As of December 31, 2020 and 2019, we invested $85.6 million and $37.1 million, respectively, in loan solar energy systems and energy storage systems not yet placed in service. For the years ended December 31, 2020 and 2019, interest income related to our customer notes receivable was $23.2 million and $11.6 million, respectively. As of December 31, 2020 and 2019, accrued interest receivable related to our customer notes receivable was $1.2 million and $869,000, respectively. As of December 31, 2020 and 2019, there were no customer notes receivable not accruing interest and thus, there was no allowance recorded for loans on nonaccrual status. For the years ended December 31, 2020 and 2019, interest income of $0 was recognized for loans on nonaccrual status and accrued interest receivable of $0 was written off by reversing interest income.

We consider the performance of our customer notes receivable portfolio and its impact on our allowance for credit losses. We also evaluate the credit quality based on the aging status and payment activity. The following table presents the aging of the amortized cost of customer notes receivable as of December 31, 2020:

	As of December 31,	
	2020	2019
	(in thousands)	
1-90 days past due	$ 8,504	$ 5,741
91-180 days past due	1,733	1,714
Greater than 180 days past due	6,855	3,331
Total past due	17,092	10,786
Not past due	537,997	302,037
Total	$ 555,089	$ 312,823

As of December 31, 2020 and 2019, the amortized cost of our customer notes receivable more than 90 days past due but not on nonaccrual status was $8.6 million and $5.0 million, respectively. The following table presents the amortized cost by origination year of our customer notes receivable based on payment activity.

	Amortized Cost by Origination Year						
	2020	2019	2018	2017	2016	Prior	Total
	(in thousands)						
Payment performance:							
Performing	$ 266,756	$ 134,152	$ 86,815	$ 31,042	$ 19,522	$ 9,947	$ 548,234
Nonperforming (1)	280	1,275	1,910	1,972	1,215	203	$ 6,855
Total	$ 267,036	$ 135,427	$ 88,725	$ 33,014	$ 20,737	$ 10,150	$ 555,089

(1) A nonperforming loan is a loan in which the customer is in default and has not made any scheduled principal or interest payments for 181 days or more.

(8) Long-Term Debt

Our subsidiaries with long-term debt include SEI, Sunnova Energy Corporation, Sunnova Asset Portfolio 4, LLC ("AP4"), HELI, LAPH, EZOP, TEPIIH, HELII, RAYSI, HELIII, TEPH, TEPINV, SOLI, HELIV, AP8 and SOLII. The following table presents the detail of long-term debt, net as recorded in the consolidated balance sheets:

	Year Ended December 31, 2020 Weighted Average Effective Interest Rates	As of December 31, 2020		Year Ended December 31, 2019 Weighted Average Effective Interest Rates	As of December 31, 2019	
		Long-term	Current		Long-term	Current
		(in thousands, except interest rates)				
SEI						
7.75% convertible senior notes	17.41%	$ —	$ —	7.75%	$ 55,000	$ —
9.75% convertible senior notes	14.53%	95,648	—		—	—
Debt discount, net		(37,394)	—		(16,913)	—
Deferred financing costs, net		(239)	—		(480)	—
Sunnova Energy Corporation						
Notes payable	7.14%	—	2,254	3.22%	—	2,428
AP4						
Secured term loan	10.81%	—	—	5.61%	86,369	6,109
Debt discount, net		—	—		(452)	—
Deferred financing costs, net		—	—		(196)	—
HELI						
Solar asset-backed notes	6.55%	205,395	6,329	6.56%	213,632	8,673
Debt discount, net		(2,241)	—		(3,169)	—
Deferred financing costs, net		(4,004)	—		(5,586)	—
LAPH						

Secured term loan	11.34%	—	—	7.71%	41,484	1,392
Debt discount, net		—	—		(401)	—
Deferred financing costs, net		—	—		(356)	—
EZOP						
Warehouse credit facility	4.39%	171,600	—	6.60%	121,400	—
Debt discount, net		(1,431)	—		(2,178)	—
TEPIIH						
Revolving credit facility	19.47%	—	—	6.36%	234,650	—
Debt discount, net		—	—		(2,219)	—
HELII						
Solar asset-backed notes	5.71%	227,574	11,707	5.77%	241,309	13,005
Debt discount, net		(42)	—		(49)	—
Deferred financing costs, net		(5,085)	—		(5,873)	—
RAYSI						
Solar asset-backed notes	5.49%	120,391	5,836	5.47%	126,828	6,327
Debt discount, net		(1,376)	—		(1,547)	—
Deferred financing costs, net		(4,334)	—		(4,759)	—
HELIII						
Solar loan-backed notes	4.01%	122,047	13,065	4.03%	135,543	19,030
Debt discount, net		(2,423)	—		(2,532)	—
Deferred financing costs, net		(2,326)	—		(2,410)	—
TEPH						
Revolving credit facility	5.81%	239,570	—	6.70%	90,325	—
Debt discount, net		(3,815)	—		(645)	—
TEPINV						
Revolving credit facility	10.80%	25,240	29,464	7.95%	54,707	40,500
Debt discount, net		(1,322)	—		(2,856)	—
Deferred financing costs, net		(1,758)	—		(2,207)	—
SOLI						
Solar asset-backed notes	3.91%	384,258	15,416		—	—
Debt discount, net		(113)	—		—	—
Deferred financing costs, net		(8,915)	—		—	—
HELIV						
Solar loan-backed notes	3.97%	129,648	16,515		—	—
Debt discount, net		(885)	—		—	—
Deferred financing costs, net		(3,905)	—		—	—
AP8						
Revolving credit facility	5.31%	42,047	4,386		—	—
SOLII						
Solar asset-backed notes	3.18%	248,789	5,911		—	—
Debt discount, net		(80)	—		—	—
Deferred financing costs, net		(5,866)	—		—	—
Total		$ 1,924,653	$ 110,883		$ 1,346,419	$ 97,464

Availability. As of December 31, 2020, we had $402.4 million of available borrowing capacity under our various financing arrangements, consisting of $28.4 million under the EZOP warehouse credit facility, $360.4 million under the TEPH revolving credit facility and $13.6 million under the AP8 revolving credit facility. There was no available borrowing capacity under any of our other financing arrangements. As of December 31, 2020, we were in compliance with all debt covenants under our financing arrangements.

Weighted Average Effective Interest Rates. The weighted average effective interest rates disclosed in the table above are the weighted average stated interest rates for each debt instrument plus the effect on interest expense for other items classified as interest expense, such as the amortization of deferred financing costs, amortization of debt discounts and commitment fees on unused balances for the period of time the debt was outstanding during the indicated periods.

SEI Debt. In December 2019, we issued and sold an aggregate principal amount of $55.0 million of our 7.75% convertible senior notes ("7.75% convertible senior notes") in a private placement at an issue price of 95%, for an aggregate purchase price of $52.3 million. In May 2020, we issued and sold an aggregate principal amount of $130.0 million of our 9.75% convertible senior notes ("9.75% convertible senior notes") in a private placement at an issue price of 95%, for an aggregate purchase price of $123.5 million. The 9.75% convertible senior notes mature in April 2025 unless earlier redeemed, repurchased or converted. We granted the investors of the 9.75% convertible senior notes an option to purchase up to an additional $60.0 million aggregate principal amount of 9.75% convertible senior notes on the same terms and conditions, and the investors exercised this option and completed the purchase of such additional 9.75% convertible senior notes in June 2020. In May 2020, we also exchanged all $55.0 million aggregate principal amount outstanding of our 7.75% convertible senior notes for an equal principal amount of our 9.75% convertible senior notes. During the year ended December 31, 2020, certain holders of our 9.75% convertible senior notes converted approximately $150.8 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into common stock. See Note 13, Stockholders' Equity.

The investors in our 9.75% convertible senior notes may, at their option, convert all or any portion of their 9.75% convertible senior notes. Upon conversion, we may satisfy our conversion obligation by paying and/or delivering, as the case may be, cash, shares of common stock, or a combination of cash and shares of common stock, at our option, subject to certain terms and conditions. The conversion rate for the 9.75% convertible senior notes is 74.0741 shares of common stock per $1,000 principal amount of 9.75% convertible senior notes, plus accrued and unpaid interest, which is equivalent to an initial conversion price (excluding interest) of approximately $13.50 per share of common stock. The conversion rate is subject to adjustment under certain circumstances in accordance with the terms of the related indenture. On and after May 14, 2023, we have the right to cause the conversion of the 9.75% convertible senior notes if certain specified conditions are met, including minimum common stock price and minimum volume conditions.

At any time prior to May 14, 2022, we may, at our option, redeem for cash up to 33.33% aggregate principal amount of the then outstanding 9.75% convertible senior notes (after giving effect to any conversions on or prior to such redemption date) at a redemption price equal to 115% of aggregate principal amount of 9.75% convertible senior notes so redeemed, plus any accrued and unpaid interest to, but excluding, the redemption date, using the net cash proceeds of one or more equity offerings by us, provided the redemption occurs within 180 days of the date of the closing of such equity offering.

At any time on or after May 14, 2023, we may, at our option, redeem for cash all (but not less than all) of the 9.75% convertible senior notes at the redemption price (expressed as percentages of principal amount) set forth below, plus any accrued and unpaid interest, if any, to, but excluding, the redemption date:

Period	Percentage
At any time on and after May 14, 2023 but prior to May 14, 2024	115%
At any time on and after May 14, 2024	110%

On and after September 23, 2024, the holders of the 9.75% convertible senior notes have the option to require us to repurchase their 9.75% convertible senior notes for cash at a purchase price of 110% of the aggregate principal amount repurchased, plus accrued and unpaid interest to the date of repurchase.

For accounting purposes and in accordance with GAAP, the exchange of our 7.75% convertible senior notes for our 9.75% convertible senior notes was treated as a debt modification and we separated the 9.75% convertible senior notes into liability and equity components. As of December 31, 2020, the carrying amount of the liability component for the 9.75% convertible senior notes of approximately $58.0 million (net of an unamortized debt discount of $37.4 million and unamortized issuance costs of $239,000) was determined based on a discounted cash flow analysis and a binomial lattice model. The valuation required the use of Level 3 unobservable inputs and subjective assumptions, including but not limited to, the stock price volatility and bond yield. The use of alternative market assumptions and estimation methodologies could have had an effect on these estimates of fair value. As of December 31, 2020, the carrying amount of the equity component for the 9.75% convertible senior notes of approximately $8.8 million (net of unamortized issuance costs of $545,000), representing the conversion option, was determined by deducting the carrying amount of the liability components from the principal amount of the 9.75% convertible senior notes. This difference between the principal amount of the 9.75% convertible senior notes and the liability component represents the debt discount, presented as a reduction to the 9.75% convertible senior notes in the consolidated balance sheets and is amortized to interest expense, net using the effective interest method over the remaining term of the 9.75% convertible senior notes. The equity component of the 9.75% convertible senior notes is included in additional paid-in-capital—common stock in the consolidated balance sheets and is not remeasured as long as it continues to meet the conditions for equity classification. See Note 17, Subsequent Events.

Sunnova Energy Corporation Notes Payable. In May 2019, we entered into an arrangement to finance $1.9 million in property insurance premiums at an annual interest rate of 5.50% over ten months. In July 2019, we entered into an arrangement to finance $4.7 million in directors and officers insurance premiums at an annual interest rate of 4.94% over eight months. In August 2020, we entered into an arrangement to finance $2.8 million in directors and officers insurance premiums at an annual interest rate of 4.25% over seven months. In October 2020, we entered into an arrangement to finance $1.4 million in property insurance premiums at an annual interest rate of 4.25% over five months.

AP4 Debt. In July 2014, we entered into a collateral-based financing agreement with Texas Capital Bank, as administrative agent, and the lenders party thereto, to obtain funding for solar energy systems, working capital and general and administrative expenses of Sunnova Energy Corporation and AP4. The initial aggregate principal amount of the commitments under the AP4 financing agreement was $90.0 million, which was increased to $110.0 million in October 2015 and then reduced to $107.1 million in December 2017. Borrowings under the AP4 financing agreement were secured by the assets of AP4, which include certain solar energy systems and the related solar service agreements, accounts receivable and note receivable.

The loans under the AP4 financing agreement bore interest at an annual rate of either LIBOR plus 3.00% or a base rate (defined as, for any day, a rate of interest per annum equal to the highest of (a) the prime rate for such day; (b) the sum of the federal funds rate for such day plus 0.50%; and (c) adjusted LIBOR for such day plus 1.00%) plus 2.00%. In addition, through December 2016, the AP4 debt accrued a commitment fee at a rate equal to 0.50% per year of the daily unused amount of the commitment. In December 2016, the loans converted to an amortizing term loan and began amortizing quarterly based on a modified mortgage style amortization schedule. The terms under the AP4 financing agreement contained certain covenants and restrictions, including a ratio of consolidated EBITDA (as defined in the AP4 financing agreement) to debt service (as defined in the AP4 financing agreement) that could not be less than 1.25 to 1.00 for any four-quarter period ending as of the end of any fiscal quarter. Furthermore, the borrowers were permitted to pay distributions so long as after giving effect thereto, the debt service coverage ratio was at least 1.0 to 1.0.

In March 2017, the AP4 financing agreement was amended to, among other things, extend the maturity date from July 2019 to July 2020. In December 2017, the AP4 financing agreement was amended to, among other things, admit into the collateral pool and borrow against certain assets previously financed under another subsidiary's financing agreement, the proceeds of which were used to repay a substantial portion of the aggregate outstanding principal amount under the subsidiary's financing agreement. In December 2018, the AP4 financing agreement was amended to, among other things, extend the start date of required excess cash flow payments from January 2019 to June 2019 and add a minimum net worth requirement.

As of March 31, 2019, AP4 was not in compliance with the debt covenant regarding the ratio of consolidated EBITDA to debt service, which is an event of default. In April 2019, AP4 exercised its right to an equity cure, which allowed Sunnova Energy Corporation to contribute approximately $106,000 to AP4 and allowed AP4 to add such amount to consolidated EBITDA for purposes of recalculating the ratio as of March 31, 2019. Subsequent to the equity cure, AP4 was in compliance with the debt covenants under the AP4 financing agreement. In June 2019, we amended the AP4 financing agreement to, among other things, (a) extend the maturity date from July 2020 to January 2021, (b) decrease the applicable margin for LIBOR loans to 2.50% and (c) change the debt covenant regarding the ratio of consolidated EBITDA to debt service to be calculated based on collections from customers and other cash receipts and disbursements (instead of consolidated EBITDA). In connection with this amendment we repaid $5.0 million of outstanding borrowings under this facility. In August 2019, AP4 conveyed its ownership interest in Sunnova Lease Vehicle 3-HI, LLC to Sunnova Energy Corporation and the security interest on the assets of Sunnova Lease Vehicle 3-HI, LLC that were previously collateral securing the borrowings under the AP4 financing agreement was released. In February 2020, the aggregate principal amount outstanding under the AP4 financing agreement of $92.0 million was fully repaid using proceeds from the SOLI Notes (as defined below), all related interest rate swaps were unwound and the debt facility was terminated.

HELI Debt. In April 2017, we pooled and transferred eligible solar energy systems and the related asset receivables into HELI, a special purpose entity, that issued $191.8 million in aggregate principal amount of Series 2017-1 Class A solar asset-backed notes, $18.0 million in aggregate principal amount of Series 2017-1 Class B solar asset-backed notes and $45.0 million in aggregate principal amount of Series 2017-1 Class C solar asset-backed notes (collectively, the "Notes") with a maturity date of September 2049. The Notes were issued at a discount of 0.05% for Class A, 9.28% for Class B and 8.65% for Class C and bear interest at an annual rate equal to 4.94%, 6.00% and 8.00%, respectively. The cash flows generated by these solar energy systems are used to service the semi-annual principal and interest payments on the Notes and satisfy HELI's expenses, and any remaining cash can be distributed to Helios Depositor, LLC, HELI's sole member. In connection with the Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to management and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed (a) the manager's obligations to manage the solar energy systems

pursuant to the management agreement, (b) the servicer's obligations to service the solar energy systems pursuant to the servicing agreement and (c) Sunnova Asset Portfolio 5, LLC's obligations to repurchase or substitute certain ineligible solar energy systems eventually sold to HELI pursuant to the sale and contribution agreement. HELI is also required to maintain a liquidity reserve account and an inverter replacement reserve account for the benefit of the holders of the Notes, each of which must remain funded at all times to the levels specified in the Notes (see Note 2, Significant Accounting Policies). The indenture requires HELI to track the debt service coverage ratio (such ratio, the "DSCR") of (a) the amount of certain payments received from customers, certain performance based incentives, certain energy credits and any applicable insurance proceeds as of a specific date to (b) interest and scheduled principal due on the Notes as of such date with the potential to enter into an early amortization period if the DSCR drops below a certain threshold. The holders of the Notes have no recourse to our other assets except as expressly set forth in the Notes.

LAPH Debt. In April 2017, LAPH and its wholly-owned subsidiaries Sunnova LAP I, LLC and Sunnova LAP II, LLC, entered into a term loan agreement with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto, for an initial aggregate committed principal amount of $260.0 million with a maturity date of December 2018, which was amended (see below). The proceeds of the loans were available to purchase or otherwise acquire solar energy systems (which we originated) directly from Sunnova Asset Portfolio 7 Holdings, LLC ("AP7H"), the sole member of LAPH, pursuant to a sale and contribution agreement, fund certain reserve accounts that are required to be maintained by the borrowers in accordance with the loan agreement and pay fees and expenses incurred in connection with the loan agreement. The amount available for borrowings at any one time under the loan agreement was limited to a borrowing base amount determined at each borrowing and calculated based on the aggregate discounted present value of remaining payments owed to LAPH and its wholly-owned subsidiaries in respect of the solar energy systems transferred to LAPH and its wholly-owned subsidiaries.

Interest on the borrowings under the LAPH loan agreement was due monthly; however, it was amended to be due quarterly in November 2018 (see below). Class A advances under the LAPH loan agreement initially bore interest at an annual rate equal to the weighted-average cost to the lender of any commercial paper (to the extent the lender funds an advance by issuing commercial paper) plus 3.30%. Class B advances bore interest at an annual rate equal to 11.00%. The loan agreement required the borrowers to pay a fee based on the daily unused portion of the commitments under the loan agreement. Revenues from the solar energy systems were deposited into accounts established pursuant to the loan agreement and applied in accordance with a cash waterfall in the manner specified in the loan agreement. The borrowers were also required to maintain a liquidity reserve account and an inverter replacement reserve account for the benefit of the lenders under the loan agreement, each of which had to be funded at all times to the levels specified in the loan agreement (see Note 2, Significant Accounting Policies).

In connection with the LAPH loan agreement, certain of our affiliates received a fee for managing and servicing the solar energy systems pursuant to management and servicing agreements. In addition, Sunnova Energy Corporation had guaranteed (a) the manager's obligations to manage the solar energy systems pursuant to the management agreement, (b) the servicer's obligations to service the solar energy systems pursuant to the servicing agreement, (c) AP7H's obligations to repurchase or substitute certain ineligible solar energy systems sold to LAPH and its wholly-owned subsidiaries pursuant to certain sale and contribution agreements and (d) certain indemnification obligations related to its affiliates in connection with the LAPH loan agreement, but did not provide a general guarantee of the creditworthiness of the assets of LAPH and its wholly-owned subsidiaries pledged as the collateral for the loan agreement. Under the limited guarantee, Sunnova Energy Corporation was subject to certain financial covenants regarding tangible net worth, working capital and restrictions on the use of proceeds from the loan agreement.

In April 2018, the LAPH loan agreement was amended to, among other things, extend the maturity date from December 2018 to May 2019. In November 2018, the LAPH loan agreement was amended to, among other things, decrease the maximum commitment amount of Class A advances to $44.2 million and of Class B advances to $0, extend the maturity date to November 2022, change the interest on Class A advances to an annual rate equal to LIBOR plus 4.50% and change the interest collection period from monthly to quarterly. In February 2020, proceeds from the SOLI Notes (as defined below) were used to repay $32.0 million in aggregate principal amount outstanding of LAPH debt. In November 2020, the aggregate principal amount outstanding under the LAPH loan agreement of $10.6 million was fully repaid using proceeds from the SOLII Notes (as defined below), all related interest rates swaps were unwound and the debt facility was terminated.

EZOP Debt. In April 2017, EZOP, a special purpose entity, entered into a secured revolving warehouse credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto, for an aggregate committed amount of $100.0 million with a maturity date of April 2019. In August 2017, the aggregate committed amount was reduced to $70.0 million and in March 2019, the aggregate committed amount was increased to $200.0 million. The warehouse credit facility allows for the pooling and transfer of eligible loans on a non-recourse basis subject to certain limited exceptions. The proceeds of the loans under the warehouse credit facility are available to purchase or otherwise acquire loans (which we

originated) directly from AP7H pursuant to a sale and contribution agreement, fund certain reserve accounts that are required to be maintained by EZOP in accordance with the credit agreement and pay fees and expenses incurred in connection with the warehouse credit facility. The amount available for borrowings at any one time under the warehouse credit facility is limited to a borrowing base amount determined at each borrowing and calculated based on the aggregate discounted present value of remaining payments owed to EZOP in respect of the loans transferred to EZOP.

Interest on the borrowings under the warehouse credit facility is due monthly. Borrowings under the EZOP warehouse credit facility bear interest at an annual rate equal to the weighted-average cost to the lender of any commercial paper (to the extent the lender funds an advance by issuing commercial paper) plus 3.50% during the commitment availability period and 4.50% after the commitment availability period. In March 2019, we amended the EZOP warehouse credit facility to, among other things, adjust the interest rate on borrowings to an annual rate of adjusted LIBOR plus either 2.15% or 3.15% per annum depending on the date of the most recent takeout transaction in respect of assets securing the credit facility and extend the maturity date from April 2019 to November 2022. In December 2019, we further amended the EZOP warehouse credit facility to, among other things, adjust the interest rate on borrowings to an annual rate of adjusted LIBOR plus either 2.35% or 3.35% per annum depending on the date of the most recent takeout transaction in respect of assets securing the credit facility. The warehouse credit facility requires EZOP to pay a fee based on the daily unused portion of the commitments under the warehouse credit facility. Revenues from the solar energy systems will be deposited into accounts established pursuant to the warehouse credit facility and applied in accordance with a cash waterfall in the manner specified in the warehouse credit facility. EZOP is also required to maintain a liquidity reserve account and an equipment replacement reserve account for the benefit of the lenders under the warehouse credit facility, each of which must remain funded at all times to the levels specified in the credit agreement (see Note 2, Significant Accounting Policies).

In connection with the EZOP warehouse credit facility, certain of our affiliates receive a fee for managing and servicing the solar loan agreements and related solar energy systems pursuant to management and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed (a) the manager's obligations to manage the solar loan agreements and related solar energy systems pursuant to the management agreement, (b) the servicer's obligations to service the solar loan agreements and related solar energy systems pursuant to the servicing agreement, (c) AP7H's obligations to repurchase or substitute certain ineligible solar loans sold to EZOP pursuant to certain sale and contribution agreements and (d) certain indemnification obligations related to its affiliates in connection with the EZOP warehouse credit facility, but does not provide a general guarantee of the creditworthiness of the assets of EZOP pledged as the collateral for the warehouse credit facility. Under the limited guarantee, Sunnova Energy Corporation is subject to certain financial covenants regarding tangible net worth, working capital and restrictions on the use of proceeds from the warehouse credit facility. In June 2020, proceeds from the HELIV Notes (as defined below) were used to repay $149.3 million in aggregate principal amount outstanding of EZOP debt. In October 2020, proceeds from the AP8 revolving credit facility were used to repay $28.0 million in aggregate principal amount outstanding of EZOP debt. See Note 17, Subsequent Events.

TEPIIH Debt. In August 2018, TEPIIH entered into a revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The TEPIIH revolving credit facility allowed for borrowings based on the aggregate value of solar assets owned by subsidiaries of TEPIIH subject to certain excess concentration limitations. Under the TEPIIH revolving credit facility, TEPIIH could borrow up to an initial aggregate committed amount of $125.0 million with a maximum commitment amount of $175.0 million. The proceeds from the revolving credit facility were available for funding certain reserve accounts required by the revolving credit facility, making distributions to the parent of TEPIIH and paying fees incurred in connection with closing the revolving credit facility. The TEPIIH revolving credit facility had a maturity date of August 2022. In March 2019, we amended the TEPIIH revolving credit facility to, among other things, extend the maturity date from August 2022 to November 2022, increase the aggregate committed amount to $150.0 million and increase the maximum commitment amount to $250.0 million. In September 2019, we further amended the TEPIIH revolving credit facility to, among other things, cross-collateralize the TEPIIH revolving credit facility with the TEPH revolving credit facility and implement corresponding cross-default provisions. In February 2020, the aggregate principal amount outstanding under the TEPIIH revolving credit facility of $226.6 million was fully repaid using proceeds from the SOLI Notes (as defined below), all related interest rate swaps were unwound and the debt facility was terminated.

HELII Debt. In November 2018, we pooled and transferred eligible solar energy systems and the related asset receivables into HELII, a special purpose entity, that issued $202.0 million in aggregate principal amount of Series 2018-1 Class A solar asset-backed notes and $60.7 million in aggregate principal amount of Series 2018-1 Class B solar asset-backed notes (collectively, the "Notes II") with a maturity date of July 2048. The Notes II were issued at a discount of 0.02% for Class A and 0.02% for Class B and bear interest at an annual rate equal to 4.87% and 7.71%, respectively. The cash flows generated by these solar energy systems are used to service the semi-annual principal and interest payments on the Notes II and satisfy HELII's expenses, and any remaining cash can be distributed to Helios Depositor II, LLC, HELII's sole member. In connection with the Notes II, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to

management and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed (a) the manager's obligations to manage the solar energy systems pursuant to the management agreement, (b) the servicer's obligations to service the solar energy systems pursuant to the servicing agreement and (c) Sunnova ABS Holdings, LLC's obligations to repurchase or substitute certain ineligible solar energy systems eventually sold to HELII pursuant to the sale and contribution agreement. HELII is also required to maintain a liquidity reserve account, an inverter replacement reserve account and a cash trap reserve account for the benefit of the holders of the Notes II, each of which must remain funded at all times to the levels specified in the Notes II (see Note 2, Significant Accounting Policies). The indenture requires HELII to track the DSCR of (a) the amount of certain payments received from customers, certain performance based incentives, certain energy credits and any applicable insurance proceeds as of a specific date to (b) interest and scheduled principal due on the Notes II as of such date with the potential to enter into an early amortization period if the DSCR drops below a certain threshold. The holders of the Notes II have no recourse to our other assets except as expressly set forth in the Notes II.

RAYSI Debt. In March 2019, we pooled and transferred eligible solar energy systems and the related asset receivables into RAYSI, a special purpose entity, that issued $118.1 million in aggregate principal amount of Series 2019-1 Class A solar asset-backed notes with a maturity date of April 2044 and $15.0 million in aggregate principal amount of Series 2019-1 Class B solar asset-backed notes with a maturity date of April 2034. The notes were issued with no discount for Class A and at a discount of 6.50% for Class B and bear interest at an annual rate equal to 4.95% and 6.35%, respectively. In June 2019, RAYSI issued $6.4 million in aggregate principal amount of 2019-2 Class B solar asset-backed notes with a maturity date of April 2034 pursuant to a supplemental note purchase agreement at a discount rate of 10.50% and bear interest at an annual rate equal to 6.35%. The notes issued by RAYSI are referred to as the "RAYSI Notes". The cash flows generated by these solar energy systems are used to service the semi-annual principal and interest payments on the RAYSI Notes and satisfy RAYSI's expenses, and any remaining cash can be distributed to Sunnova RAYS Depositor II, LLC, RAYSI's sole member. In connection with the RAYSI Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to management, servicing, facility administration and asset management agreements. In addition, Sunnova Energy Corporation has guaranteed, among other things, (a) the obligations of certain of our subsidiaries to manage and service the solar energy systems pursuant to management, servicing, facility administration and asset management agreements, (b) the managing member's obligations, in such capacity, under the related financing fund's limited liability company agreement and (c) certain of our subsidiaries' obligations to repurchase or substitute certain ineligible solar energy systems eventually sold to RAYSI pursuant to the related sale and contribution agreement. RAYSI is also required to maintain a liquidity reserve account, a supplemental reserve account for inverter replacement and financing fund purchase option exercises, a storage system reserve account and a cash trap reserve account for the benefit of the holders of the RAYSI Notes, each of which must remain funded at all times to the levels specified in the RAYSI Notes. The indenture requires RAYSI to track the DSCR of (a) the amount of certain payments received from customers, certain performance based incentives, certain energy credits and any applicable insurance proceeds as of a specific date to (b) interest and scheduled principal due on the RAYSI Notes as of such date with the potential to enter into an early amortization period if the DSCR drops below a certain threshold. The indenture contains cross-default provisions under which a material default by (a) RAYSI or (b) a tax equity fund under the applicable tax equity transaction documents would, upon the expiration of certain time periods, result in an event of default under the RAYSI indenture. The holders of the RAYSI Notes have no recourse to our other assets except as expressly set forth in the RAYSI Notes.

HELIII Debt. In June 2019, we pooled and transferred eligible solar loans and the related receivables into HELIII, a special purpose entity, that issued $139.7 million in aggregate principal amount of Series 2019-A Class A solar loan-backed notes, $14.9 million in aggregate principal amount of Series 2019-A Class B solar loan-backed notes and $13.0 million in aggregate principal amount of Series 2019-A Class C solar loan-backed notes (collectively, the "HELIII Notes") with a maturity date of June 2046. The HELIII Notes were issued at a discount of 0.03% for Class A, 0.01% for Class B and 0.03% for Class C and bear interest at an annual rate of 3.75%, 4.49% and 5.32%, respectively. The cash flows generated by these solar loans are used to service the semi-annual principal and interest payments on the HELIII Notes and satisfy HELIII's expenses, and any remaining cash can be distributed to Sunnova Helios III Depositor, LLC, HELIII's sole member. In connection with the HELIII Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to management and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed, among other things, (a) the obligations of certain of our subsidiaries to manage and service the solar energy systems pursuant to management and servicing agreements, (b) the managing member's obligations, in such capacity, under the related financing fund's limited liability company agreement and (c) certain of our subsidiaries' obligations to repurchase or substitute certain ineligible solar loans eventually sold to HELIII pursuant to the related sale and contribution agreement. HELIII is also required to maintain a reserve account, a supplemental reserve account for inverter replacement and a capitalized interest reserve account for the benefit of the holders of the HELIII Notes, each of which must remain funded at all times to the levels specified in the HELIII Notes. The holders of the HELIII Notes have no recourse to our other assets except as expressly set forth in the HELIII Notes.

TEPH Debt. In September 2019, TEPH, a wholly owned subsidiary of SEI, entered into a revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. The TEPH revolving credit facility allows for borrowings based on the aggregate value of solar assets owned by subsidiaries of TEPH subject to certain excess concentration limitations. Under the TEPH revolving credit facility, TEPH may borrow up to an initial aggregate committed amount of $100.0 million with a maximum commitment amount of $150.0 million and a maturity date of November 2022. The proceeds from the revolving credit facility are available for funding certain reserve accounts required by the revolving credit facility, making distributions to the parent of TEPH and paying fees incurred in connection with closing the revolving credit facility. The revolving credit facility is non-recourse to SEI and is secured by net cash flows from PPAs and leases available to the borrower after distributions to tax equity investors and payment of certain operating, maintenance and other expenses. Sunnova Energy Corporation guarantees the performance of certain affiliates who manage the collateral related to the credit facility as well as certain indemnity and repurchase obligations. Under the limited guarantee, Sunnova Energy Corporation is subject to certain financial covenants regarding tangible net worth, working capital and restrictions on the use of proceeds from the facility. In December 2019, we amended the TEPH revolving credit facility to, among other things, (a) modify the borrowing base eligibility criteria for certain solar assets relating to the timing of the expected first payments from such solar assets, (b) modify the calculation of the amount required to be deposited into the liquidity reserve account, (c) delay the application of concentration limits for an additional 90 days, (d) temporarily increase the borrowing base applied to certain solar assets and (e) include additional provisions regarding qualified financial contract rules.

Borrowings under the TEPH revolving credit facility are made in Class A loans and Class B loans. The TEPH revolving credit facility has an advance rate equal to approximately 60% of the value of the solar projects in the portfolio that have not yet begun construction and 80% of the value of the solar projects that have reached substantial completion. Interest on the borrowings under the TEPH revolving credit facility is due quarterly. Borrowings under the TEPH revolving credit facility initially bore interest at an annual rate of either LIBOR divided by a percentage equal to 100% minus a reserve percentage or a base rate (defined as, for any day, a rate of interest per annum equal to the highest of (a) the prime rate for such day and (b) the sum of the weighted average of the rates on overnight federal funds transactions with members of the federal reserve system arranged by federal funds brokers as published for such day plus 0.50%), plus a margin of between 2.90% and 4.30%, which varies based on criteria including (a) whether the availability period has expired (which is expected to occur in May 2022), (b) whether a takeout transaction has occurred in the last 18 months and (c) the ratio of Class A loans to Class B loans outstanding at such time.

In January 2020, we amended the TEPH revolving credit facility to, among other things, (a) allow a wholly-owned subsidiary of TEPH to transfer projects and other solar assets to tax equity funds owned by TEPH and (b) upon the full repayment and termination of the TEPIIH revolving credit facility, remove all cross-defaults and cross-collateralization between the TEPIIH revolving credit facility and the TEPH revolving credit facility. In February 2020, we amended the TEPH revolving credit facility to, among other things, (a) increase the aggregate commitment amount from $100.0 million to $200.0 million and (b) increase the maximum commitment amount from $150.0 million to $200.0 million. In March 2020, we amended the TEPH revolving credit facility to, among other things, (a) increase the maximum facility amount to $400.0 million, with all of the increased amount coming from Class A lenders on an uncommitted basis, (b) increase both the Class A and Class B interest rates by 0.40% and (c) modify the borrowing base calculation to shift a portion of the borrowing base from Class B to Class A lenders. In May 2020, we amended the TEPH revolving credit facility to, among other things, (a) increase the aggregate commitment amount from $200.0 million to $390.0 million and (b) increase the unused line fee on such committed amounts. In June 2020, we amended the TEPH revolving credit facility to, among other things, (a) increase the aggregate commitment amount from $390.0 million to $437.5 million, (b) increase the maximum commitment amount from $400.0 million to $437.5 million, (c) modify the advance rates for solar energy systems and (d) modify the interest rates to an adjusted LIBOR rate plus a weighted average margin of 4.15%. In October 2020, we amended the TEPH revolving credit facility to, among other things, increase the aggregate commitment amount from $437.5 million to $460.7 million and increase the maximum commitment amount from $437.5 million to $600.0 million. In November 2020, we amended the TEPH revolving credit facility to, among other things, (a) reduce the borrowing base applied to certain solar assets and (b) include a carve-out for certain solar assets in the determination of the projected hedged SREC ratio. In November 2020, proceeds from the SOLII Notes (as defined below) were used to repay $211.5 million in aggregate principal amount outstanding of TEPH debt. See Note 17, Subsequent Events.

TEPINV Debt. In December 2019, TEPINV, a special purpose wholly owned subsidiary of SEI, entered into a secured revolving credit facility with Credit Suisse AG, New York Branch, as administrative agent, and the lenders party thereto. Under the TEPINV revolving credit facility, TEPINV could borrow up to an initial aggregate committed amount of $95.2 million with a maximum commitment amount of $137.6 million and a maturity date of the earlier of (a) 27 months from the initial purchase date of eligible equipment, (b) December 2022, (c) the date on which there is no eligible equipment in the facility and (d) such earlier date as when the obligations under the TEPINV revolving credit facility become due and payable, upon an acceleration or otherwise. The proceeds from the TEPINV revolving credit facility were available for purchasing certain eligible equipment the borrower intends will allow certain related solar energy systems to qualify for the 30% Section 48(a) ITC by satisfying the

5% ITC Safe Harbor outlined in Internal Revenue Service ("IRS") notice 2018-59, funding a reserve account required by the TEPINV revolving credit facility and paying fees incurred in connection with closing the TEPINV revolving credit facility.

Borrowings under the TEPINV revolving credit facility were made in Class A loans and Class B loans. The TEPINV revolving credit facility has an advance rate equal to approximately 85% of the value of certain eligible equipment. Interest on the borrowings under the TEPINV revolving credit facility is due monthly. Borrowings under the TEPINV revolving credit facility bear interest at an annual rate of either LIBOR divided by a percentage equal to 100% minus a reserve percentage or a base rate (defined as, for any day, a rate of interest per annum equal to the highest of (a) the prime rate for such day, (b) the sum of the weighted average of the rates on overnight federal funds transactions with members of the federal reserve system arranged by federal funds brokers as published for such day plus 0.50% and (c) 0.00%), plus a margin equal to 5.99% on a blended basis. In connection with the TEPINV revolving credit facility, certain of our affiliates receive a fee for managing the equipment pursuant to a management services agreement. In addition, Sunnova Energy Corporation has guaranteed (a) the performance obligations of certain affiliates to perform under affiliate transaction documents entered into in connection with the TEPINV revolving credit facility, (b) certain indemnification obligations related to our affiliates in connection with the TEPINV revolving credit facility, (c) the borrower's obligations under the TEPINV revolving credit facility, subject to a cap of $9.5 million, which equates to 10% of the initial commitments and (d) expenses incurred by the borrower or the administrative agent in enforcing rights under certain affiliate transaction documents or the guarantee. Under the limited guarantee, Sunnova Energy Corporation is subject to certain financial covenants regarding tangible net worth, working capital and restrictions on the use of proceeds from the TEPINV revolving credit facility. The TEPINV revolving credit facility contains cross-default provisions stating that (a) an event of default under the TEPH revolving credit facility, (b) a breach, default or event of default by certain affiliates under the applicable tax equity transaction documents, (c) any acceleration of debt of Sunnova Energy Corporation or (d) a breach or default in other debt of the loan parties or the pledgor, in each case is an event of default under the TEPINV revolving credit facility. In September 2020, we amended the TEPINV revolving credit facility to, among other things, expand the scope of the eligible equipment that TEPINV can borrow against to include energy storage systems. In December 2020, the availability period for additional borrowings under the TEPINV revolving credit facility ended.

SOLI Debt. In February 2020, we pooled and transferred eligible solar energy systems and the related asset receivables into wholly-owned subsidiaries of SOLI, a special purpose entity, that issued $337.1 million in aggregate principal amount of Series 2020-1 Class A solar asset-backed notes and $75.4 million in aggregate principal amount of Series 2020-1 Class B solar asset-backed notes (collectively, the "SOLI Notes") with a maturity date of January 2055. The SOLI Notes were issued at a discount of 0.89% for Class A and 0.85% for Class B and bear interest at an annual rate equal to 3.35% and 5.54%, respectively. The cash flows generated by the solar energy systems of SOLI's subsidiaries are used to service the quarterly principal and interest payments on the SOLI Notes and satisfy SOLI's expenses, and any remaining cash can be distributed to Sunnova Sol Depositor, LLC, SOLI's sole member. In connection with the SOLI Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to a transaction management agreement and managing and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed (a) the obligations of certain of our subsidiaries to manage and service the solar energy systems pursuant to management, servicing and transaction management agreements, (b) the managing members' obligations, in such capacity, under the related financing fund's limited liability company agreement and (c) certain of our subsidiaries' obligations to repurchase or substitute certain ineligible solar energy systems eventually sold to SOLI pursuant to the sale and contribution agreement. SOLI is also required to maintain a liquidity reserve account, a tax loss insurance proceeds account and a supplemental reserve account for the benefit of the holders of the SOLI Notes, each of which must remain funded at all times to the levels specified in the SOLI Notes. The indenture requires SOLI to track the DSCR of (a) the amount of certain payments received from customers, certain performance based incentives, certain energy credits and any applicable insurance proceeds as of a specific date to (b) interest and scheduled principal due on the SOLI Notes as of such date with the potential to enter into an early amortization period if the DSCR drops below a certain threshold. The holders of the SOLI Notes have no recourse to our other assets except as expressly set forth in the SOLI Notes.

HELIV Debt. In June 2020, we pooled and transferred eligible solar loans and the related receivables into HELIV, a special purpose entity, that issued $135.9 million in aggregate principal amount of Series 2020-A Class A solar loan-backed notes and $22.6 million in aggregate principal amount of Series 2020-A Class B solar loan-backed notes (collectively, the "HELIV Notes") with a maturity date of June 2047. The HELIV Notes were issued at a discount of 0.01% for Class A and 4.18% for Class B and bear interest at an annual rate of 2.98% and 7.25%, respectively. The cash flows generated by these solar loans are used to service the monthly principal and interest payments on the HELIV Notes and satisfy HELIV's expenses, and any remaining cash can be distributed to Sunnova Helios IV Depositor, LLC, HELIV's sole member. In connection with the HELIV Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to management and service agreements. In addition, Sunnova Energy Corporation has guaranteed, among other things, (a) the obligations of certain of our subsidiaries to manage and service the solar energy systems pursuant to management and servicing agreements and (b) certain of our subsidiaries' obligations to repurchase or substitute certain ineligible solar loans eventually sold to HELIV pursuant to the related sale and contribution agreement. HELIV is also required to maintain a reserve account, a

supplemental reserve account for equipment replacement and a capitalized interest reserve account for the benefit of the holders of the HELIV Notes, each of which must be funded at all times to the levels specified in the HELIV Notes. The holders of the HELIV Notes have no recourse to our other assets except as expressly set forth in the HELIV Notes.

AP8 Debt. In September 2020, AP8 entered into a secured revolving credit facility with Banco Popular de Puerto Rico for an aggregate committed amount of $60.0 million with a maturity date of September 2023. The proceeds of the loans under the revolving credit facility are available to purchase or otherwise acquire solar loans, fund a reserve account that is required to be maintained by AP8 in accordance with the credit agreement and pay fees and expenses incurred in connection with the revolving credit facility. The amount available for borrowings at any one time under the revolving credit facility is limited to a borrowing base amount determined at each borrowing and calculated based on a specified advance rate applied to the net outstanding principal balance of the solar loans securing the revolving credit facility. Interest on the borrowings under the revolving credit facility is due monthly. Borrowings under the AP8 revolving credit facility bear interest at an annual rate of adjusted LIBOR plus an applicable margin.

In connection with the AP8 revolving credit facility, certain of our affiliates receive a fee for managing and servicing the solar loan agreements and related solar energy systems pursuant to management and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed (a) the manager's obligations to manage the solar loan agreements and related solar energy systems pursuant to the management agreement, (b) the servicer's obligations to service the solar loan agreements and related solar energy systems pursuant to the servicing agreement, (c) Sunnova Asset Portfolio 8 Holdings, LLC's obligations to repurchase or substitute certain ineligible solar loans sold to AP8 pursuant to certain sale and contribution agreements, (d) certain indemnification obligations related to its affiliates in connection with the AP8 revolving credit facility and (e) the obligation of AP8 under the AP8 revolving credit facility to the extent a default is caused by a misappropriation of funds or certain insolvency events relating to AP8, but does not provide a general guarantee of the creditworthiness of the assets of AP8 pledged as the collateral for the revolving credit facility. Under the limited guarantee, Sunnova Energy Corporation is subject to certain financial covenants regarding tangible net worth, working capital and restrictions on the use of proceeds from the AP8 revolving credit facility. See Note 17, Subsequent Events.

SOLII Debt. In November 2020, we pooled and transferred eligible solar energy systems and the related asset receivables into wholly-owned subsidiaries of SOLII, a special purpose entity, that issued $209.1 million in aggregate principal amount of Series 2020-2 Class A solar asset-backed notes and $45.6 million in aggregate principal amount of Series 2020-2 Class B solar asset-backed notes (collectively, the "SOLII Notes") with a maturity date of November 2055. The SOLII Notes were issued at a discount of 0.03% for Class A and 0.05% for Class B and bear interest at an annual rate equal to 2.73% and 5.47%, respectively. The cash flows generated by the solar energy systems of SOLII's subsidiaries are used to service the quarterly principal and interest payments on the SOLII Notes and satisfy SOLII's expenses, and any remaining cash can be distributed to Sunnova Sol II Depositor, LLC, SOLII's sole member. In connection with the SOLII Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to a transaction management agreement and managing and servicing agreements. In addition, Sunnova Energy Corporation has guaranteed (a) the obligations of certain of our subsidiaries to manage and service the solar energy systems pursuant to management, servicing and transaction management agreements, (b) the managing members' obligations, in such capacity, under the related financing fund's limited liability company agreement and (c) certain of our subsidiaries' obligations to repurchase or substitute certain ineligible solar energy systems eventually sold to SOLII pursuant to the sale and contribution agreement. SOLII is also required to maintain certain reserve accounts for the benefit of the holders of the SOLII Notes, each of which must remain funded at all times to the levels specified in the SOLII Notes. The indenture requires SOLII to track the DSCR of (a) the amount of certain payments received from customers, certain performance based incentives, certain energy credits and any applicable insurance proceeds as of a specific date to (b) interest and scheduled principal due on the SOLII Notes as of such date with the potential to enter into an early amortization period if the DSCR drops below a certain threshold. The holders of the SOLII Notes have no recourse to our other assets except as expressly set forth in the SOLII Notes.

Fair Values of Long-Term Debt. The fair values of our long-term debt and the corresponding carrying amounts are as follows:

	As of December 31,			
	2020		2019	
	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
	(in thousands)			
SEI 7.75% convertible senior notes	$ —	$ —	$ 55,000	$ 37,964
SEI 9.75% convertible senior notes	95,648	100,482	—	—
Sunnova Energy Corporation notes payable	2,254	2,254	2,428	2,428
AP4 secured term loan	—	—	92,478	92,478
HELI solar asset-backed notes	211,724	220,941	222,305	223,895
LAPH secured term loan	—	—	42,876	42,876
EZOP warehouse credit facility	171,600	171,600	121,400	121,400
TEPIIH revolving credit facility	—	—	234,650	234,650
HELII solar asset-backed notes	239,281	286,579	254,314	281,850
RAYSI solar asset-backed notes	126,227	146,506	133,155	139,004
HELIII solar loan-backed notes	135,112	149,489	154,573	155,701
TEPH revolving credit facility	239,570	239,570	90,325	90,325
TEPINV revolving credit facility	54,704	54,704	95,207	95,207
SOLI solar asset-backed notes	399,674	427,511	—	—
HELIV solar loan-backed notes	146,163	145,433	—	—
AP8 revolving credit facility	46,433	46,433	—	—
SOLII solar asset-backed notes	254,700	254,674	—	—
Total (1)	$ 2,123,090	$ 2,246,176	$ 1,498,711	$ 1,517,778

(1) Amounts exclude the net deferred financing costs and net debt discounts of $87.6 million and $54.8 million as of December 31, 2020 and 2019, respectively.

For the AP4, LAPH, EZOP, TEPIIH, TEPH, TEPINV and AP8 debt, the estimated fair values approximate the carrying amounts due primarily to the variable nature of the interest rates of the underlying instruments. For the notes payable, the estimated fair value approximates the carrying amount due primarily to the short-term nature of the instruments. For the convertible senior notes and the HELI, HELII, RAYSI, HELIII, SOLI, HELIV and SOLII debt, we determined the estimated fair values based on a yield analysis of similar type debt.

Principal Maturities of Long-Term Debt. As of December 31, 2020, the principal maturities of our long-term debt were as follows:

	Principal Maturities of Long-Term Debt
	(in thousands)
2021	$ 110,883
2022	505,674
2023	107,401
2024	63,536
2025	161,088
2026 and thereafter	1,174,508
Total	$ 2,123,090

(9) Derivative Instruments

Interest Rate Swaps on AP4 Debt. During the year ended December 31, 2020, the aggregate outstanding principal amount under the AP4 financing agreement was fully repaid, AP4 unwound all outstanding interest rate swaps with an aggregate notional amount of $105.2 million and recorded a realized loss of $484,000.

Interest Rate Swaps on LAPH Debt. During the year ended December 31, 2020, the aggregate outstanding principal amount under the LAPH loan agreement was fully repaid, LAPH unwound all outstanding interest rate swaps with an aggregate notional amount of $44.2 million and recorded a realized loss of $9.1 million.

Interest Rate Swaps on EZOP Debt. During the years ended December 31, 2020 and 2019, EZOP entered into interest rate swaps for an aggregate notional amount of $155.8 million and $255.8 million, respectively, to economically hedge its exposure to the variable interest rates on a portion of the outstanding EZOP debt. No collateral was posted for the interest rate swaps as they are secured under the EZOP warehouse credit facility. In October 2020, the notional amount of the interest rate swaps began decreasing to match EZOP's estimated monthly principal payments on the debt. During the years ended December 31, 2020 and 2019, EZOP unwound interest rate swaps with a notional amount of $126.1 million and $264.6 million, respectively, and recorded a realized loss of $6.4 million and $81,000, respectively.

Interest Rate Swaps on TEPIIH Debt. During the year ended December 31, 2019, TEPIIH entered into interest rate swaps for an aggregate notional amount of $171.2 million to economically hedge its exposure to the variable interest rates on a portion of the outstanding TEPIIH debt. No collateral was posted for the interest rate swaps as they are secured under the TEPIIH revolving credit facility. During the year ended December 31, 2020, the aggregate outstanding principal amount under the TEPIIH revolving credit facility was fully repaid, TEPIIH unwound all outstanding interest rate swaps with an aggregate notional amount of $181.4 million and recorded a realized loss of $25.1 million.

Interest Rate Swaps on TEPH Debt. During the years ended December 31, 2020 and 2019, TEPH entered into interest rate swaps for an aggregate notional amount of $260.8 million and $103.1 million, respectively, to economically hedge its exposure to the variable interest rates on a portion of the outstanding TEPH debt. No collateral was posted for the interest rate swaps as they are secured under the TEPH revolving credit facility. In October 2020, the notional amount of the interest rate swaps began decreasing to match TEPH's estimated quarterly principal payments on the debt.

Interest Rate Cap on TEPINV Debt. During the year ended December 31, 2020, TEPINV entered into an interest rate cap for an aggregate notional amount of $95.2 million to economically hedge its exposure to the variable interest rates on a portion of the outstanding TEPINV debt. No collateral was posted for the interest rate cap as it is secured under the TEPINV revolving credit facility. In January 2020, the notional amount of the interest rate cap began decreasing to match TEPINV's estimated monthly principal payments on the debt.

The following table presents a summary of the outstanding derivative instruments:

	As of December 31,							
	2020				2019			
	Effective Date	Termination Date	Fixed Interest Rate	Aggregate Notional Amount	Effective Date	Termination Date	Fixed Interest Rate	Aggregate Notional Amount
				(in thousands, except interest rates)				
AP4			—%	$ —	March 2018	July 2020	2.338%	$ 99,762
LAPH			—%	—	November 2018	October 2036	3.409%	43,298
EZOP	June 2020 - November 2020	September 2029 - February 2031	0.483% - 2.620%	130,373	June 2019 - November 2019	July 2029 - March 2030	1.631% - 2.620%	100,083
TEPIIH			—%	—	September 2018 - November 2019	July 2031 - October 2041	1.909% - 3.383%	225,845
TEPH	September 2018 - January 2023	January 2023 - January 2038	0.528% - 2.114%	202,272	September 2019 - January 2023	January 2023 - July 2034	1.620% - 1.928%	55,115
TEPINV	December 2019	December 2022	2.500%	51,025			—%	—
Total				$ 383,670				$ 524,103

The following table presents the fair value of the interest rate swaps as recorded in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Other assets	$ —	$ 360
Other current liabilities	—	(397)
Other long-term liabilities	(13,407)	(27,092)
Total, net	$ (13,407)	$ (27,129)

We did not designate the interest rate swaps as hedging instruments for accounting purposes. As a result, we recognize changes in fair value immediately in interest expense, net. The following table presents the impact of the interest rate swaps as recorded in the consolidated statements of operations:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Realized (gain) loss	$ 51,326	$ 13,195	$ (17,004)
Unrealized (gain) loss	(13,768)	19,237	6,100
Total	$ 37,558	$ 32,432	$ (10,904)

(10) Income Taxes

Our effective income tax rate is 0% for the years ended December 31, 2020, 2019 and 2018. Total income tax differs from the amounts computed by applying the statutory income tax rate to loss before income tax primarily as a result of our valuation allowance. The sources of these differences are as follows:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Loss before income tax	$ (307,637)	$ (133,434)	$ (68,409)
Statutory federal tax rate	21%	21%	21%
Tax benefit computed at statutory rate	(64,604)	(28,021)	(14,366)
State income tax, net of federal benefit	(16,862)	(8,344)	(4,308)
Adjustments from permanent differences:			
Redeemable noncontrolling interests	11,662	(2,293)	(1,226)
ITC recapture	232	296	989
Other	475	852	234
Increase in valuation allowance, net	69,278	37,510	18,677
Total income tax expense	$ 181	$ —	$ —

State, federal and foreign income taxes are $181,000, $0 and $0 for the years ended December 31, 2020, 2019 and 2018, respectively. The tax effects of temporary differences that give rise to significant portions of the deferred tax assets (liabilities) are as follows:

	As of December 31,	
	2020	2019
	(tax effected, in thousands)	
Federal net operating loss carryforward	$ 242,732	$ 169,379
State net operating loss carryforward	76,281	49,565
ITC carryforward	267,522	246,828
Federal unused interest deduction carryforward	39,036	22,559
Investment in certain financing arrangements	44,337	36,999
Other deferred tax assets	23,010	20,801
Deferred tax assets	692,918	546,131
Fixed asset basis difference	(298,032)	(235,510)
Investment in certain financing arrangements	(57,222)	(22,826)
Other deferred tax liabilities	(3,427)	(2,819)
Deferred tax liabilities	(358,681)	(261,155)
Valuation allowance	(334,237)	(284,976)
Net deferred tax asset	$ —	$ —

A full valuation allowance of $334.2 million and $285.0 million was recorded against our net deferred tax assets as of December 31, 2020 and 2019, respectively. We believe it is not more likely than not that future taxable income and the reversal of deferred tax liabilities will be sufficient to realize our net deferred tax assets. Our estimated federal tax net operating loss carryforward as of December 31, 2020 is approximately $1.2 billion, which will begin to expire in 2032 if not utilized. We also generated $20.7 million of Section 48(a) ITCs in 2020 for a net $267.5 million through December 31, 2020, which will begin to expire in 2033 if not utilized.

We assessed whether we had any significant uncertain tax positions taken in a filed tax return, planned to be taken in a future tax return or claim, or otherwise subject to interpretation and determined there were none not 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, or prospectively approved when such approval may be sought in advance. Accordingly, we recorded no reserve for uncertain tax positions. Should a provision for any interest or penalties relative to unrecognized tax benefits be necessary, it is our policy to accrue for such in our income tax accounts. There were no such accruals as of December 31, 2020 and 2019 and we do not expect a significant change in gross unrecognized tax benefits in the next twelve months. Our tax years after 2011 remain subject to examination by the IRS and by the taxing authorities in the states and territories in which we operate.

Under the provisions of the Internal Revenue Code and similar state provisions, our net operating loss carryforwards and tax credit carryforwards are subject to review and possible adjustment by the IRS and state tax authorities. Under Sections 382 and 383 of the Internal Revenue Code, as well as similar state provisions, our net operating loss and tax credit carryforwards may be subject to an annual limitation in the event of certain cumulative changes in the ownership interest of certain significant shareholders over a three-year period in excess of 50%. This could limit the amount of tax attributes that can be utilized annually to offset future taxable income or tax liabilities. The amount of the annual limitation is determined based on the value of our company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years. We experienced an ownership change in August 2020 as defined by Sections 382 and 383 of the Internal Revenue Code. While we are presently evaluating the impact of Sections 382 and 383 on our deferred tax assets as a result of the aforementioned ownership change, we maintain a full valuation allowance to reduce our deferred tax assets to the amount expected to be realized.

We conduct operations in the U.S. territories of Puerto Rico, Guam and the Commonwealth of the Northern Mariana Islands. As a result, our income tax expense includes the effects of taxes incurred in such jurisdictions where the tax code for the respective jurisdiction may have separate tax-reporting requirements. Jurisdiction-specific income taxes, in aggregate, do not adjust our effective income tax rate of 0%.

In March 2020, the U.S. enacted the Coronavirus Aid, Relief, and Economic Security Act ("CARES Act"), featuring significant tax provisions and relief measures to assist individuals and businesses impacted by the economic effects of the COVID-19 pandemic. Relief measures intended to aid businesses in employee retention include payroll tax relief and a refundable tax credit for employers who retain employees during the COVID-19 pandemic. In addition, among other things, the CARES Act establishes (a) a five-year carryback of net operating losses generated in 2018, 2019 and 2020, (b) a temporary suspension of the 80% limitation on the use of net operating losses in 2018, 2019 and 2020 and (c) an increase to the adjusted taxable income limitation from 30% to 50% for business interest deductions under Section 163(j) of the U.S. Internal Revenue Code of 1986, as amended, for 2019 and 2020. We have historically maintained, and continue to maintain, a full valuation allowance against deferred tax assets. Due to our aggregate amount of net operating losses, we cannot utilize the carryback or limitation suspension provisions pertaining to the usage of net operating losses. However, the increase to the adjusted taxable income limitation for business interest deductions resulted in a decrease to our deferred tax assets for unused business interest deductions and an offsetting increase to our net operating loss carryforward.

In December 2020, the U.S. enacted the Continued Assistance for Unemployment Workers Act of 2020 ("CARES Act II"), which provided an extension of the CARES Act's unemployment benefits. It also extended unemployment benefits to independent contractors and provided independent contractors with paid sick and family leave benefits through March 2021. Neither the CARES Act nor the CARES Act II has any impact on our valuation allowance.

(11) Related-Party Transactions

SEI Debt. During 2020, certain of our affiliates who have representatives on our Board were holders of more than 10% of our common stock and were also holders of our 9.75% convertible senior notes. For the year ended December 31, 2020, we recorded expense related to such holders of approximately $1.3 million in interest expense, net in the consolidated statement of operations while the holders were classified as a related party. As of December 31, 2020, such holders no longer own more than 10% of our common stock.

Sunnova Energy Corporation Debt. During 2019 and 2018, certain of our affiliates who have representatives on our Board were holders of certain senior secured notes and convertible notes. In connection with our IPO, we redeemed the senior secured notes for cash and the holders of the convertible notes converted the principal amount plus accrued and unpaid interest into shares of common stock. We have classified these related transactions as such in the consolidated statements of operations and consolidated statements of cash flows for the years ended December 31, 2019 and 2018.

Promissory Notes. In March 2018, we entered into a bonus agreement with an executive officer providing that each year beginning in January 2019, one-fourth of the outstanding loan balance (and related accrued and unpaid interest) under the promissory notes executed by that officer and an entity controlled by that officer, in favor of Sunnova Energy Corporation, in combined aggregate principal amounts totaling $1.7 million (the "Officer Notes"), was to be forgiven provided that officer remained employed through the applicable forgiveness date, such that the full amount of the Officer Notes would be forgiven as of January 2022. In January 2019, one-fourth of the balance of the Officer Notes was forgiven. In June 2019, as additional bonus compensation, the remaining principal and interest in the amount of $1.4 million associated with the Officer Notes was forgiven and Sunnova Energy Corporation agreed to pay the officer a bonus to reimburse the officer for the expected tax liability associated with such forgiveness of $892,000, which was paid in August 2019.

(12) Redeemable Noncontrolling Interests and Noncontrolling Interests

The following table summarizes our redeemable noncontrolling interests and noncontrolling interests as of December 31, 2020:

Tax Equity Entity	Balance Sheet Classification	Date Class A Member Admitted
Sunnova TEP I, LLC	Redeemable noncontrolling interests	March 2017
Sunnova TEP II, LLC	Redeemable noncontrolling interests	December 2017
Sunnova TEP II-B, LLC	Redeemable noncontrolling interests	December 2017
Sunnova TEP III, LLC	Redeemable noncontrolling interests	January 2019
TEPIVA	Noncontrolling interests	August 2019
TEPIVB	Noncontrolling interests	December 2019
TEPIVC	Noncontrolling interests	February 2020
TEPIVD	Noncontrolling interests	May 2020
Sunnova TEP IV-F, LLC	Noncontrolling interests	July 2020
TEPIVE	Noncontrolling interests	September 2020
TEPIVG	Noncontrolling interests	November 2020

The purpose of the tax equity entities is to own and operate a portfolio of residential solar energy systems and energy storage systems. The terms of the tax equity entities' operating agreements contain allocations of income (loss), Section 48(a) ITCs and cash distributions that vary over time and adjust between the members on an agreed date (referred to as the flip date). The operating agreements specify either a date certain flip date or an internal rate of return ("IRR") flip date. The date certain flip date is based on the passage of a fixed period of time that generally corresponds to the expiration of the recapture period associated with Section 48(a) ITCs or a year thereafter. The IRR flip date is the date on which the tax equity investor has achieved a contractual rate of return. From inception through the flip date, the Class A members' allocation of taxable income (loss) and Section 48(a) ITCs is generally 99% and the Class B members' allocation of taxable income (loss) and Section 48(a) ITCs is generally 1%. TEPIVA, TEPIVB, TEPIVC, TEPIVD, TEPIVE and TEPIVG also have a step-down period prior to the flip date in which the Class A members' allocation of certain items within taxable income (loss) and Section 48(a) ITCs become 67% and the Class B members' allocation of certain items within taxable income (loss) and Section 48(a) ITCs become 33%. After the related flip date (or, if the tax equity investor has a deficit capital account, typically after such deficit has been eliminated), the Class A members' allocation of taxable income (loss) will typically decrease to 5% (or, in some cases, a higher percentage if required by the tax equity investor) and the Class B members' allocation of taxable income (loss) will increase by an inverse amount.

The redeemable noncontrolling interests and noncontrolling interests are comprised of Class A units, which represent the tax equity investors' interest in the tax equity entities. Both the Class A members and Class B members have call options to allow either member to redeem the other member's interest in the tax equity entities upon the occurrence of certain contingent events, such as bankruptcy, dissolution/liquidation and forced divestitures of the tax equity entities. Additionally, except for TEPIVG, the Class B members have the option to purchase all Class A units, which is typically exercisable at any time during the periods specified under their respective governing documents, and, in regards to the tax equity entities classified as redeemable noncontrolling interests, also have the contingent obligation to purchase all Class A units if the Class A members exercise their right to withdraw, which is typically exercisable at any time during the nine-month period commencing upon the applicable flip date. The carrying values of the redeemable noncontrolling interests were equal to or greater than the redemption values as of December 31, 2020 and 2019.

Guarantees. We are contractually obligated to make certain Class A members whole for losses they may suffer in certain limited circumstances resulting from the disallowance or recapture of Section 48(a) ITCs. We have concluded the likelihood of a significant recapture event is remote and consequently have not recorded a liability for any potential recapture exposure. The maximum potential future payments we could be required to make under this obligation would depend on the IRS successfully asserting upon audit the fair market values of the solar energy systems sold or transferred to the tax equity entities as determined by us exceed the allowable basis for the systems for purposes of claiming Section 48(a) ITCs. The fair market values of the solar energy systems and related Section 48(a) ITCs are determined, and the Section 48(a) ITCs are allocated to the Class A members, in accordance with the tax equity entities' operating agreements. Due to uncertainties associated with estimating the timing and amounts of distributions, the likelihood of an event that may trigger repayment, forfeiture or recapture of Section 48(a) ITCs to such Class A members, and the fact that we cannot determine how the IRS will

evaluate system values used in claiming Section 48(a) ITCs, we cannot determine the potential maximum future payments that are required under these guarantees.

From time to time, we incur non-performance fees, which may include, but is not limited to, delays in the installation process and interconnection to the power grid of solar energy systems and other factors. The non-performance fees are settled by either a return of a portion of the Class A members' capital contributions or an additional payment to the Class A members. During the years ended December 31, 2020 and 2019, we paid $2.1 million and $1.3 million, respectively, related to non-performance fees. During the year ended December 31, 2018, we did not make any reimbursements or payments related to non-performance fees. As of December 31, 2020 and 2019, we recorded a liability of $1.5 million and $566,000, respectively, related to non-performance fees.

(13) Stockholders' Equity

Series A and Series C Convertible Preferred Stock

The Series A and Series C convertible preferred stock was convertible into our Series A common stock at an initial conversion ratio of 1:1, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to any of our common stock and to broad-based weighted average anti-dilution protection. The Series A and Series C convertible preferred stock was mandatorily convertible into our Series A common stock upon either (a) the closing of a public offering of shares of our common stock with aggregate gross proceeds, net of underwriting discounts and commissions, of not less than $175.0 million at a per share offering price of at least 1.25 times the original purchase price of our Series A convertible preferred stock or (b) the affirmative vote of at least 80% of the shares of Series A and Series C convertible preferred stock voting as a single class and on an "as converted basis". The holders of Series A and Series C convertible preferred stock were entitled to cast the number of votes equal to the number of whole shares of Series A common stock into which the Series A and Series C convertible preferred stock held by such holders is convertible as of the record date for determining stockholders entitled to vote on such matter.

In March 2018, we increased the number of authorized voting shares of our convertible preferred stock to 64,294,899 shares, of which 47,149,592 shares were designated as Series A convertible preferred stock and 17,145,306 shares were designated as Series C convertible preferred stock. During the year ended December 31, 2018, we issued 13,006,780 shares of Series C convertible preferred stock at $13.53 per share in exchange for $176.0 million in cash. In connection with our IPO, we converted 46,351,877 shares of our Series A convertible preferred stock and 14,127,140 shares of our Series C convertible preferred stock, which represented all the outstanding shares of our Series A convertible preferred stock and Series C convertible preferred stock, into 60,479,017 shares of our common stock.

Series B Convertible Preferred Stock

The Series B convertible preferred stock was convertible into our Series A common stock at a rate determined by dividing the original issue price by the conversion price of $8.70 at or after the earlier of (a) November 9, 2018 or (b) immediately prior to the consummation of a sale of Sunnova, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization with respect to any of our common stock and to broad-based weighted average anti-dilution protection. The Series B convertible preferred stock was mandatorily convertible into our Series A common stock upon either (a) the closing of the sale of shares of any of our common stock to the public at a price of at least approximately $6.6558 per share (subject to appropriate adjustments) or (b) the affirmative vote of at least 75% of the shares of Series A and Series B convertible preferred stock. Each holder of Series B convertible preferred stock was entitled to cast the number of votes equal to the number of whole shares of Series A common stock into which the Series B convertible preferred stock held by such holder were convertible as of the record date for determining stockholders entitled to vote on such matter.

In January 2018, we issued 13,013 shares of Series B convertible preferred stock at $8.70 per share in exchange for $113,000 in cash. In March 2018, we exchanged all outstanding shares of Series B convertible preferred stock, plus accrued paid-in-kind interest thereon, for 4,763,086 shares of Series A convertible preferred stock. Immediately following the exchange, we canceled all shares of Series B convertible preferred stock. As of December 31, 2018, there was no Series B convertible preferred stock outstanding.

Series A Common Stock

In March 2018, we increased the number of authorized voting shares of Series A common stock to 77,153,879 shares, of which 64,294,899 shares were reserved for the issuance of Series A common stock upon the conversion of Series A or Series C convertible preferred stock. In connection with our IPO, our Series A common stock was redesignated as common stock.

Series B Common Stock

Our Series B non-voting common stock related to our equity-based compensation plans (see Note 14, Equity-Based Compensation). In connection with our IPO, we converted 23,870 shares of our non-voting Series B common stock, which represented all the outstanding shares of our Series B common stock, into 23,870 shares of our voting Series A common stock, which was subsequently redesignated as common stock.

Common Stock

On July 24, 2019, we priced 14,000,000 shares of common stock in our IPO at a public offering price of $12.00 per share and on July 25, 2019 our common stock began trading on the New York Stock Exchange under the symbol "NOVA". On August 19, 2019, we issued and sold an additional 865,267 shares of our common stock at a public offering price of $12.00 per share pursuant to the underwriters' exercise of their option to purchase additional shares. We received aggregate net proceeds from our IPO of approximately $162.3 million, after deducting underwriting discounts and commissions of approximately $10.7 million and offering expenses of approximately $5.4 million. We used the proceeds from our IPO to repay indebtedness and for working capital purposes.

In December 2020, we sold 4,025,000 shares of common stock at a public offering price of $37.00 per share. We received aggregate net proceeds of approximately $142.7 million, after deducting underwriting discounts and commissions of approximately $6.0 million and offering expenses of approximately $300,000. We used the net proceeds from the offering to acquire solar equipment, repay indebtedness and for working capital purposes.

During the year ended December 31, 2020, certain of the holders of our 9.75% convertible senior notes converted approximately $150.8 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into 11,168,874 shares of our common stock. Such conversions resulted in a loss on extinguishment of debt under GAAP of $142.8 million for the year ended December 31, 2020. See Note 17, Subsequent Events.

(14) Equity-Based Compensation

Effective December 2013 and January 2015, we established and adopted two stock option plans (collectively, the "Prior Plans") after approval by our Board. The Prior Plans provided the aggregate number of shares of common stock that may be issued pursuant to stock options shall not exceed 26,032 shares. No further awards may be made under the Prior Plans.

Effective March 2016, we established and adopted a new stock option plan (the "2016 Plan") after approval by our Board. The 2016 Plan allowed for the issuance of non-qualified and incentive stock options. The 2016 Plan provided the aggregate number of shares of common stock that may be issued pursuant to stock options shall not exceed 4,288,950 shares. No further awards may be made under the 2016 Plan.

In connection with our IPO, approximately 50% of the non-vested stock options outstanding at that time, or 995,517 stock options, became exercisable and the vesting terms for all remaining stock options were amended so all stock options would be fully vested on the first anniversary of the closing date of our IPO. We recorded an additional $3.2 million of expense in July 2019 related to the accelerated vesting periods.

In connection with our IPO, our Board adopted the 2019 Long-Term Incentive Plan (the "LTIP") to incentivize employees, officers, directors and other service providers of SEI and its affiliates. The LTIP provides for the grant, from time to time, at the discretion of our Board or a committee thereof, of stock options, stock appreciation rights, stock awards, including restricted stock and restricted stock units, performance awards and cash awards. The LTIP provides the aggregate number of shares of common stock that may be issued pursuant to awards shall not exceed 5,229,318 shares. The number of shares available for issuance under the LTIP will be increased on the first day of each fiscal year beginning in 2020, in an amount equal to the lesser of (a) a number of shares such that the total number of shares that remain available for additional grants under the LTIP equals five percent of the outstanding shares of our common stock on the last day of the immediately preceding fiscal year or (b) such number of shares determined by our Board. Awards granted under the LTIP contain a service condition and cease vesting for employees, consultants and directors upon termination of employment or service. During the year ended December 31, 2020, we granted 1,141,413 restricted stock units to certain employees, consultants and directors with a grant date fair value of $13.7 million, which will be recognized ratably over the applicable vesting period of each award (either one year, three years or seven years).

The Prior Plans and the 2016 Plan will only allow for settlement of stock options by the issuance of common stock and restricted stock units issued under the LTIP can generally only be settled by the issuance of common stock. Therefore, we classify the stock options and restricted stock units as equity awards. We recognize the fair value of equity-based compensation awards as compensation cost in the financial statements, beginning on the grant date. We base compensation expense on the fair value of the awards we expect to vest, recognized over the service period, and adjusted for actual forfeitures that occur before vesting.

Stock Options

During 2018, we granted 1,810,016 stock options to employees and 24,860 stock options to non-employee consultants. During 2018, 1,393 stock options were net exercised (and thus, no cash was received) resulting in the issuance of 644 shares of common stock. During 2019, we granted 94,295 stock options to employees. During 2019, 2,143 stock options were exercised resulting in the issuance of 2,143 shares of common stock in exchange for an insignificant amount of cash. During 2020, no stock options were granted and 922,770 stock options were exercised resulting in the issuance of 922,770 shares of common stock in exchange for $13.6 million.

We used the following assumptions to apply the Black-Scholes option-pricing model to stock options granted during the years ended December 31, 2019 and 2018:

	Year Ended December 31,	
	2019	2018
Expected dividend yield	0.00%	0.00%
Risk-free interest rate	2.62%	2.62%
Expected term (in years)	7.94	7.94
Volatility	81%	81%

The expected volatility was calculated based on the average historical volatilities of publicly traded peer companies determined by us. The risk-free interest rate used was based on the U.S. treasury yield curve in effect at the time of grant for the expected term of the stock options to be valued. The expected dividend yield is zero as we do not anticipate paying common stock dividends within the relevant time frame. The expected term has been estimated using the average of the contractual term and weighted average life of the stock options. The following table summarizes stock option activity:

	Number of Stock Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (Years)	Weighted Average Grant Date Fair Value	Aggregate Intrinsic Value
					(in thousands)
Outstanding, December 31, 2018	4,808,390	$ 15.90	8.09		$ 129
Granted	94,295	$ 13.58	9.07	$ 3.11	
Exercised	(2,143)	$ 1.85			$ 20
Forfeited	(596,233)	$ 15.85		$ 3.48	
Outstanding, December 31, 2019	4,304,309	$ 15.86	7.08		$ 242
Exercised	(922,770)	$ 14.76			$ 28,022
Forfeited	(115,191)	$ 19.19		$ 3.54	
Outstanding, December 31, 2020	3,266,348	$ 16.06	5.82		$ 94,962
Exercisable, December 31, 2020	3,266,348	$ 16.06	5.82		$ 94,962
Vested, December 31, 2020	3,266,348	$ 16.06	5.82		$ 94,962
Non-vested, December 31, 2019	964,396			$ 3.52	
Non-vested, December 31, 2020	—			$ —	

The number of stock options that vested during the years ended December 31, 2020 and 2019 was 915,501 and 1,765,410, respectively. The grant date fair value of stock options that vested during the years ended December 31, 2020 and 2019 was $3.2 million and $6.0 million, respectively. As of December 31, 2020, there was no unrecognized compensation expense related to stock options.

Restricted Stock Units

The following table summarizes restricted stock unit activity:

	Number of Restricted Stock Units	Weighted Average Grant Date Fair Value
Outstanding, December 31, 2018	—	$ —
Granted	1,431,555	$ 11.93
Forfeited	(5,416)	$ 12.00
Outstanding, December 31, 2019	1,426,139	$ 11.93
Granted	1,141,413	$ 11.98
Vested	(463,762)	$ 11.89
Forfeited	(44,606)	$ 12.31
Outstanding, December 31, 2020	2,059,184	$ 11.95

The number of restricted stock units that vested during the years ended December 31, 2020 and 2019 was 463,762 and 0, respectively. The grant date fair value of restricted stock units that vested during the years ended December 31, 2020 and 2019 was $5.5 million and $0, respectively. As of December 31, 2020, there was $17.9 million of total unrecognized compensation expense related to restricted stock units, which is expected to be recognized over the weighted average period of 1.79 years.

(15) Basic and Diluted Net Loss Per Share

The following table sets forth the computation of our basic and diluted net loss per share:

	Year Ended December 31,		
	2020	2019	2018
	(in thousands, except share and per share amounts)		
Net loss attributable to stockholders	$ (252,284)	$ (144,351)	$ (74,246)
Dividends earned on Series A convertible preferred stock	—	(19,271)	(36,346)
Dividends earned on Series C convertible preferred stock	—	(5,454)	(5,948)
Deemed dividends on convertible preferred stock exchange	—	—	(19,332)
Net loss attributable to common stockholders—basic and diluted	$ (252,284)	$ (169,076)	$ (135,872)
Net loss per share attributable to common stockholders—basic and diluted	$ (2.87)	$ (4.14)	$ (15.74)
Weighted average common shares outstanding—basic and diluted	87,871,457	40,797,976	8,634,477

The following table presents the weighted average shares of common stock equivalents that were excluded from the computation of diluted net loss per share for the periods presented because including them would have been anti-dilutive:

	Year Ended December 31,		
	2020	2019	2018
Equity-based compensation awards	6,013,797	4,954,286	4,307,614
Convertible preferred stock	—	33,960,624	53,112,246
Convertible senior notes	9,606,157	104,320	—

(16) Commitments and Contingencies

Legal. We are a party to a number of lawsuits, claims and governmental proceedings which are ordinary, routine matters incidental to our business. In addition, in the ordinary course of business, we periodically have disputes with dealers and customers. We do not expect the outcomes of these matters to have, either individually or in the aggregate, a material adverse effect on our financial position or results of operations.

Performance Guarantee Obligations. As of December 31, 2020, we recorded $5.7 million relating to our guarantee of certain specified minimum solar energy production output under our leases and loans, of which $3.3 million is recorded in other current liabilities and $2.4 million is recorded in other long-term liabilities in the consolidated balance sheet. As of December 31, 2019, we recorded $6.5 million relating to these guarantees, of which $4.1 million is recorded in other current liabilities and $2.4 million is recorded in other long-term liabilities in the consolidated balance sheet. The changes in our aggregate performance guarantee obligations are as follows:

	As of December 31,	
	2020	2019
	(in thousands)	
Balance at beginning of period	$ 6,468	$ 6,044
Accruals for obligations issued	3,155	3,101
Settlements made in cash	(3,905)	(2,677)
Balance at end of period	$ 5,718	$ 6,468

Operating and Finance Leases. We lease real estate and certain office equipment under operating leases and vehicles and certain other office equipment under finance leases. The following table presents the detail of lease expense and lease income as recorded in general and administrative expense and other operating income, respectively, in the consolidated statements of operations:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Operating lease expense	$ 1,342	$ 1,248	$ 972
Finance lease amortization expense	3	8	—
Short-term lease expense	49	48	50
Variable lease expense	696	1,037	704
Sublease income	—	(73)	(70)
Total	$ 2,090	$ 2,268	$ 1,656

The following table presents the detail of right-of-use assets and lease liabilities as recorded in other assets and other current liabilities/other long-term liabilities, respectively, in the consolidated balance sheets:

	As of December 31,	
	2020	2019
	(in thousands)	
Right-of-use assets:		
Operating leases	$ 8,779	$ 9,668
Finance leases	391	5
Total right-of-use assets	$ 9,170	$ 9,673
Current lease liabilities:		
Operating leases	$ 1,094	$ 556
Finance leases	112	5
Long-term leases liabilities:		
Operating leases	9,742	9,389
Finance leases	203	—
Total lease liabilities	$ 11,151	$ 9,950

Other information related to leases was as follows:

	Year Ended December 31,		
	2020	2019	2018
		(in thousands)	
Cash paid (received) for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases (1)	$ (439)	$ 1,254	$ 875
Financing cash flows from finance leases	2	8	—
Right-of-use assets obtained in exchange for lease obligations:			
Operating leases	—	8,087	—
Finance leases	392	13	—

(1) Includes reimbursements in 2020 of approximately $1.5 million for leasehold improvements.

	As of December 31,	
	2020	2019
Weighted average remaining lease term (years):		
Operating leases	8.47	9.41
Finance leases	3.99	0.68
Weighted average discount rate:		
Operating leases	3.93%	3.94%
Finance leases	3.39%	4.26%

Future minimum lease payments under our non-cancelable leases as of December 31, 2020 were as follows:

	Operating Leases	Finance Leases
	(in thousands)	
2021	$ 1,536	$ 122
2022	1,559	88
2023	1,594	69
2024	1,616	55
2025	1,633	—
2026 and thereafter	5,984	—
Total	13,922	334
Amount representing interest	(2,136)	(19)
Amount representing leasehold incentives	(950)	—
Present value of future payments	10,836	315
Current portion of lease liability	(1,094)	(112)
Long-term portion of lease liability	$ 9,742	$ 203

Letters of Credit. In connection with various security arrangements for an office lease, we have a letter of credit outstanding of $375,000 and $725,000 as of December 31, 2020 and 2019, respectively. The letter of credit is cash collateralized for the same amount or a lesser amount and this cash is classified as restricted cash recorded in other current assets and other assets in the consolidated balance sheets.

Guarantees or Indemnifications. We enter into contracts that include indemnifications and guarantee provisions. In general, we enter into contracts with indemnities for matters such as breaches of representations and warranties and covenants contained in the contract and/or against certain specified liabilities. Examples of these contracts include dealer agreements, debt agreements, asset purchases and sales agreements, service agreements and procurement agreements. We are unable to estimate

our maximum potential exposure under these agreements until an event triggering payment occurs. We do not expect to make any material payments under these agreements.

Dealer Commitments. As of December 31, 2020 and 2019, the net unamortized balance of payments to dealers for exclusivity and other similar arrangements was $55.7 million and $32.8 million, respectively. Under these agreements, we paid $25.8 million and $31.7 million during the years ended December 31, 2020 and 2019, respectively. We could be obligated to make maximum payments, excluding additional amounts payable on a per watt basis if even higher thresholds are met, as follows:

	Dealer Commitments
	(in thousands)
2021	$ 28,982
2022	35,844
2023	12,520
2024	12,515
2025	2,191
2026 and thereafter	—
Total	$ 92,052

Purchase Commitments. In August 2019, we amended an agreement with a supplier in which we agreed to purchase a minimum amount of energy storage systems and components for five years. In December 2020, we amended an agreement with a supplier in which we agreed to purchase a certain amount of energy storage systems and components for one year. These purchases are recorded to inventory in other current assets in the consolidated balance sheets. Under these agreements, we could be obligated to make minimum purchases as follows:

	Purchase Commitments
	(in thousands)
2021	$ 28,497
2022	26,810
2023	26,605
2024	19,807
2025	—
2026 and thereafter	—
Total	$ 101,719

Information Technology Commitments. We have certain long-term contractual commitments related to information technology software services and licenses. Future commitments as of December 31, 2020 were as follows:

	Information Technology Commitments
	(in thousands)
2021	$ 7,976
2022	2,112
2023	26
2024	26
2025	7
2026 and thereafter	—
Total	$ 10,147

Restricted Net Assets. Our various financing agreements contain provisions that restrict the ability of certain of our consolidated subsidiaries to transfer their net assets to SEI. Such restricted net assets amounted to approximately $863.2 million as of December 31, 2020.

(17) Subsequent Events

Common Stock. In January and February 2021, the remaining holders of our 9.75% convertible senior notes converted approximately $97.1 million aggregate principal amount, including accrued and unpaid interest to the date of each conversion, of our 9.75% convertible senior notes into 7,196,035 shares of our common stock.

TEPH Debt. In January 2021, we amended the TEPH revolving credit facility to, among other things, (a) permit certain transactions in SRECs (or proceeds therefrom) and related hedging arrangements and exclude certain of such amounts from the calculation of net cash flow available to service the indebtedness and (b) allow for borrowings with respect to certain ancillary components.

HELV Debt. In February 2021, we pooled and transferred eligible solar loans and the related receivables into Sunnova Helios V Issuer, LLC ("HELV"), a special purpose entity, that issued $150.1 million in aggregate principal amount of Series 2021-A Class A solar loan-backed notes and $38.6 million in aggregate principal amount of Series 2021-A Class B solar loan-backed notes (collectively, the "HELV Notes") with a maturity date of February 2048. The HELV Notes were issued at a discount of 0.001% for Class A and 2.487% for Class B and bear interest at an annual rate of 1.80% and 3.15%, respectively. The cash flows generated by these solar loans are used to service the monthly principal and interest payments on the HELV Notes and satisfy HELV's expenses, and any remaining cash can be distributed to Sunnova Helios V Depositor, LLC, HELV's sole member. In connection with the HELV Notes, certain of our affiliates receive a fee for managing and servicing the solar energy systems pursuant to management and service agreements. In addition, Sunnova Energy Corporation has guaranteed, among other things, (a) the obligations of certain of our subsidiaries to manage and service the solar energy systems pursuant to management and servicing agreements and (b) certain of our subsidiaries' obligations to repurchase or substitute certain ineligible solar loans eventually sold to HELV pursuant to the related sale and contribution agreement. HELV is also required to maintain certain reserve accounts for the benefit of the holders of the HELV Notes, each of which must be funded at all times to the levels specified in the HELV Notes. The holders of the HELV Notes have no recourse to our other assets except as expressly set forth in the HELV Notes.

EZOP and AP8 Debt. In February 2021, proceeds from the HELV Notes were used to repay $107.3 million and $29.5 million in aggregate principal amount of outstanding EZOP and AP8 debt, respectively.

Acquisition of SunStreet. In February 2021, we entered into an Agreement and Plan of Merger (the "Merger Agreement") with certain of our subsidiaries, SunStreet Energy Group, LLC, a Delaware limited liability company ("SunStreet"), and LEN X, LLC, a Florida limited liability company, the sole member of SunStreet and a wholly owned subsidiary of Lennar Corporation. Pursuant to the Merger Agreement, we will acquire SunStreet, Lennar Corporation's residential solar platform, in exchange for up to 7,222,229 shares of our common stock (the "Acquisition"), comprised of 3,333,333 shares in initial consideration to be issued at closing, subject to purchase price adjustment, and up to 3,888,896 shares issuable as earnout consideration after closing of the Acquisition. The Acquisition is expected to provide a new strategic path to further scale our business and develop clean and resilient residential microgrids across the U.S. The Merger Agreement contains termination rights if, among other things, the Acquisition does not close on or before September 1, 2021. The Acquisition is expected to close in the second quarter of 2021. We are currently in the process of determining the accounting treatment of the Acquisition.

(18) Selected Quarterly Financial Data (Unaudited)

The following tables present the selected quarterly financial data for the years ended December 31, 2020 and 2019.

	Three Months Ended			
	December 31, 2020	September 30, 2020	June 30, 2020	March 31, 2020
	(in thousands, except per share amounts)			
Revenue (1)(2)	$ 38,024	$ 50,177	$ 42,790	$ 29,829
Total operating expenses, net (2)	$ 56,002	$ 48,528	$ 47,933	$ 44,135
Operating income (loss) (1)(2)	$ (17,978)	$ 1,649	$ (5,143)	$ (14,306)
Net loss (1)(2)(3)(4)	$ (128,791)	$ (73,294)	$ (28,729)	$ (77,004)
Net loss attributable to common stockholders—basic and diluted (1)(2)(3)(4)	$ (91,770)	$ (64,181)	$ (25,258)	$ (71,075)
Net loss per share attributable to common stockholders—basic and diluted (1)(2)(3)(4)	$ (0.96)	$ (0.73)	$ (0.30)	$ (0.85)

	Three Months Ended			
	December 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019
	(in thousands, except per share amounts)			
Revenue (1)(2)	$ 33,614	$ 36,615	$ 34,612	$ 26,715
Total operating expenses, net (2)	$ 42,769	$ 42,513	$ 37,322	$ 31,222
Operating loss (1)(2)	$ (9,155)	$ (5,898)	$ (2,710)	$ (4,507)
Net loss (1)(2)(3)	$ (13,762)	$ (34,369)	$ (49,807)	$ (35,496)
Net loss attributable to common stockholders—basic and diluted (1)(2)(3)	$ (17,509)	$ (37,590)	$ (63,260)	$ (50,717)
Net loss per share attributable to common stockholders—basic and diluted (1)(2)(3)	$ (0.21)	$ (0.62)	$ (7.32)	$ (5.87)

(1) Fluctuations are primarily due to seasonality.
(2) Fluctuations are primarily due to growth.
(3) Fluctuations are primarily due to unrealized gains and losses on derivative instruments.
(4) Fluctuations are primarily due to losses on conversions of debt into common stock.

SCHEDULE I PARENT COMPANY CONDENSED FINANCIAL STATEMENTS

SUNNOVA ENERGY INTERNATIONAL INC.
CONDENSED BALANCE SHEETS
(in thousands, except share amounts and share par values)

	As of December 31,	
	2020	2019
Assets		
Current assets:		
Cash	$ 4,917	$ 696
Total current assets	4,917	696
Investments in subsidiaries	1,076,299	891,330
Total assets	$ 1,081,216	$ 892,026
Liabilities and Stockholders' Equity		
Current liabilities:		
Accounts payable, including affiliates	$ 437	$ —
Other current liabilities	1,314	83
Total current liabilities	1,751	83
Long-term debt, net	58,015	37,607
Total liabilities	59,766	37,690
Stockholders' equity:		
Common stock, 100,412,036 and 83,980,885 shares issued as of December 31, 2020 and 2019, respectively, at $0.0001 par value	10	8
Additional paid-in capital—common stock	1,462,690	987,760
Accumulated deficit	(441,250)	(133,432)
Total stockholders' equity	1,021,450	854,336
Total liabilities and stockholders' equity	$ 1,081,216	$ 892,026

See accompanying notes to parent company condensed financial statements.

SCHEDULE I PARENT COMPANY CONDENSED FINANCIAL STATEMENTS

SUNNOVA ENERGY INTERNATIONAL INC.
CONDENSED STATEMENTS OF OPERATIONS
(in thousands)

	Year Ended December 31,		
	2020	2019	2018
Revenue	$ —	$ —	$ —
General and administrative expense	2,972	418	—
Operating loss	(2,972)	(418)	—
Interest expense, net	19,578	83	—
Loss on extinguishment of long-term debt, net	142,772	—	—
Equity in losses of subsidiaries	142,496	132,933	—
Loss before income tax	(307,818)	(133,434)	—
Income tax	—	—	—
Net loss	$ (307,818)	$ (133,434)	$ —

See accompanying notes to parent company condensed financial statements.

SCHEDULE I PARENT COMPANY CONDENSED FINANCIAL STATEMENTS

SUNNOVA ENERGY INTERNATIONAL INC.
CONDENSED STATEMENTS OF CASH FLOWS
(in thousands)

	Year Ended December 31,		
	2020	2019	2018
CASH FLOWS FROM OPERATING ACTIVITIES			
Net cash used in operating activities	$ (7,762)	$ —	$ —
CASH FLOWS FROM INVESTING ACTIVITIES			
Investments in subsidiaries	(334,471)	(219,206)	—
Distributions from subsidiaries	10,547	2	—
Net cash used in investing activities	(323,924)	(219,204)	—
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from long-term debt	106,400	38,087	—
Payments of deferred financing costs	(1,155)	(377)	—
Proceeds from issuance of common stock, net	157,005	168,204	—
Proceeds from equity component of debt instrument, net	73,657	13,984	—
Other, net	—	2	—
Net cash provided by financing activities	335,907	219,900	—
Net increase in cash	4,221	696	—
Cash at beginning of period	696	—	—
Cash at end of period	$ 4,917	$ 696	$ —
Non-cash investing and financing activities:			
Non-cash conversion of convertible senior notes for common stock	$ 149,352	$ —	$ —
Supplemental cash flow information:			
Cash paid for interest	$ 9,191	$ —	$ —
Cash paid for income taxes	$ —	$ —	$ —

See accompanying notes to parent company condensed financial statements.

SCHEDULE I NOTES TO PARENT COMPANY CONDENSED FINANCIAL STATEMENTS

(1) Basis of Presentation

On July 24, 2019, Sunnova Energy International Inc. ("SEI") priced 14,000,000 shares of its common stock at a public offering price of $12.00 per share and on July 25, 2019, SEI's common stock began trading on the New York Stock Exchange under the symbol "NOVA". Upon the closing of our initial public offering on July 29, 2019 (our "IPO"), Sunnova Energy Corporation was contributed to SEI and SEI became the holding company of Sunnova Energy Corporation through a reverse merger. In addition, the historical financial statements of Sunnova Energy Corporation became the historical financial statements of SEI. These condensed financial statements include the condensed balance sheets, condensed statements of operations and condensed statements of cash flows and have been prepared on a parent-only basis. These parent-only financial statements do not include all of the information and notes required by accounting principles generally accepted in the United States of America for annual financial statements and therefore, these parent-only financial statements and other information included should be read in conjunction with SEI's consolidated financial statements and related notes contained within this Annual Report on Form 10-K.

(2) Guarantees

As of December 31, 2020 and 2019, SEI has not issued any guarantees on behalf of its wholly-owned subsidiaries.

Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure.

None.

Item 9A. Controls and Procedures.

Internal Control Over Financial Reporting

Evaluation of Disclosure Controls and Procedures

We carried out an evaluation, under the supervision and with the participation of our management, including our Chief Executive Officer ("CEO") and our Chief Financial Officer ("CFO"), of the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 10-K, pursuant to Rules 13a-15(e) and 15d-15(e) under the Exchange Act. In connection with that evaluation, our CEO and our CFO concluded our disclosure controls and procedures were effective and designed to provide reasonable assurance the information required to be disclosed is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms as of December 31, 2020, and that such information is accumulated and communicated to our management, including our CEO and CFO, as appropriate to allow timely decisions regarding required disclosures. The term "disclosure controls and procedures", as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure information required to be disclosed by a company in the reports it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure information required to be disclosed by a company in the reports it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Management recognizes any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the fourth quarter of 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Limitations on Effectiveness of Controls and Procedures

Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives as specified above. However, our management, including our principal executive and principal financial officers, does not expect that our disclosure controls and procedures will prevent or detect all error and fraud. Any control system, no matter how well designed and operated, is based upon certain assumptions and can provide only reasonable, not absolute, assurance that its objectives will be met. Further, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, within our company have been detected.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined by Rule 13a-15(f) under the Exchange Act). Management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission to evaluate the effectiveness of our internal control over financial reporting. Management has assessed the effectiveness of our internal control over financial reporting as of December 31, 2020 and has concluded that such internal control over financial reporting is effective. The effectiveness of our internal control over financial reporting as of December 31, 2020 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in its report which is included in Item 8 of this Annual Report on Form 10-K.

Item 9B. Other Information.

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

The information required by this Item 10 of Form 10-K will be set forth in our proxy statement to be filed with the SEC in connection with the solicitation of proxies for our 2020 Annual Meeting of Stockholders ("Proxy Statement") or an amendment to this Form 10-K and is incorporated herein by reference. The Proxy Statement will be filed with the SEC within 120 days after the year-end of the fiscal year which this report relates.

Item 11. Executive Compensation.

The information required by this Item 11 will be set forth in the Proxy Statement or an amendment to this Form 10-K and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

The information required by this Item 12 will be set forth in the Proxy Statement or an amendment to this Form 10-K and is incorporated herein by reference.

Item 13. Certain Relationships and Related Transactions, and Director Independence.

The information required by this Item 13 will be set forth in the Proxy Statement or an amendment to this Form 10-K and is incorporated herein by reference.

Item 14. Principal Accounting Fees and Services.

The information required by this Item 14 will be set forth in the Proxy Statement or an amendment to this Form 10-K and is incorporated herein by reference.

PART IV

Item 15. Exhibits and 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 the 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 No.	Description
2.1	Merger Agreement, dated as of July 29, 2019, by and among Sunnova Energy International Inc., Sunnova Energy Corporation and Sunnova Merger Sub Inc. (incorporated by reference to Exhibit 2.1 to Form 8-K filed on July 29, 2019).
2.2	Merger Agreement, by and among Sunnova Energy International Inc., Moonroad LLC, Sunnova Energy Corporation, SunStreet Energy Group, LLC and LEN X, LLC, dated as of February 17, 2021 (incorporated by reference to Exhibit 2.1 to Form 8-K filed on February 19, 2021).

Exhibit No.	Description
3.1	Second Amended and Restated Certificate of Incorporation of Sunnova Energy International Inc. (incorporated by reference to Exhibit 3.3 to Form 8-K filed on July 29, 2019).
3.2	Second Amended and Restated Bylaws of Sunnova Energy International Inc. (incorporated by reference to Exhibit 3.5 to Form 8-K filed on July 29, 2019).
4.1	Description of Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934.
4.2	Stockholders Agreement, dated July 29, 2019, by and among Sunnova Energy International Inc. and certain holders of its capital stock (incorporated by reference to Exhibit 4.1 to Form 8-K filed on July 29, 2019).
4.3	Second Amended and Restated Registration Rights Agreement, dated July 29, 2019, by and among Sunnova Energy International Inc. and certain stockholders party thereto (incorporated by reference to Exhibit 4.2 to Form 8-K filed on July 29, 2019).
4.3.1	First Amendment to The Second Amended and Restated Registration Rights Agreement, among Sunnova Energy International Inc. and the parties listed therein, dated May 14, 2020 (incorporated by reference to Exhibit 4.2.1 to Form S-1 filed on June 29, 2020).
4.4	Registration Rights Agreement among Sunnova Energy International Inc. and the parties listed therein, dated May 14, 2020 (incorporated by reference to Exhibit 4.4 to form S-1 filed on June 29, 2020).
4.5∞	Indenture, among Helios Issuer, LLC and Wells Fargo Bank, National Association, dated April 19, 2017 (incorporated by reference to Exhibit 4.5 to Form S-1 filed on June 27, 2019).
4.6	Indenture, among Sunnova Energy Corporation and Wilmington Trust, National Association, dated April 24, 2017 (incorporated by reference to Exhibit 4.6 to Form S-1 filed on June 27, 2019).
4.6.1∞	First Supplemental Indenture, among Sunnova Energy Corporation and Wilmington Trust, National Association, dated November 21, 2017 (incorporated by reference to Exhibit 4.7 to Form S-1 filed on June 27, 2019).
4.6.2	Second Supplemental Indenture, among Sunnova Energy Corporation and Wilmington Trust, National Association, dated September 28, 2018 (incorporated by reference to Exhibit 4.8 to Form S-1 filed on June 27, 2019).
4.6.3	Third Supplemental Indenture, among Sunnova Energy Corporation and Wilmington Trust, National Association, dated January 18, 2019 (incorporated by reference to Exhibit 4.9 to Form S-1 filed on June 27, 2019).
4.6.4	Fourth Supplemental Indenture, among Sunnova Energy Corporation and Wilmington Trust, National Association, dated April 5, 2019 (incorporated by reference to Exhibit 4.10 to Form S-1 filed on June 27, 2019).
4.6.5	Fifth Supplemental Indenture, among Sunnova Energy Corporation and Wilmington Trust, National Association, dated June 26, 2019 (incorporated by reference to Exhibit 4.11 to Form S-1/A filed on July 3, 2019).
4.7∞	Indenture, among Sunnova Helios II Issuer, LLC and Wells Fargo Bank, National Association, dated November 8, 2018 (incorporated by reference to Exhibit 4.11 to Form S-1 filed on June 27, 2019).
4.8∞	Indenture, among Sunnova RAYS I Issuer, LLC and Wilmington Trust, National Association, dated March 28, 2019 (incorporated by reference to Exhibit 4.12 to Form S-1 filed on June 27, 2019).
4.8.1∞	Indenture Supplement No. 1, among Sunnova RAYS I Issuer, LLC and Wilmington Trust, National Association, dated March 28, 2019 (incorporated by reference to Exhibit 4.13 to Form S-1 filed on June 27, 2019).
4.8.2∞	Indenture Supplement No. 2, among Sunnova RAYS I Issuer, LLC and Wilmington Trust, National Association, dated June 7, 2019 (incorporated by reference to Exhibit 4.14 to Form S-1 filed on June 27, 2019).
4.9∞	Indenture, among Sunnova Helios III Issuer, LLC and Wells Fargo Bank, National Association, dated June 27, 2019 (incorporated by reference to Exhibit 4.15 to Form S-1 filed on June 27, 2019).
4.10∞	Indenture, between Sunnova Sol Issuer, LLC and Wells Fargo Bank, National Association, as Indenture Trustee, dated February 12, 2020 (incorporated by reference to Exhibit 4.1 to Form 10-Q filed on May 15, 2020).
4.11∞	Indenture, between Sunnova Helios IV Issuer, LLC and Wells Fargo Bank, National Association, dated June 19, 2020 (incorporated by reference to Exhibit 4.12 to Form S-1 filed on June 29, 2020).

Exhibit No.	Description
4.12∞	Indenture, between Sunnova Sol II Issuer, LLC and Wells Fargo Bank, National Association, as Indenture Trustee, dated November 30, 2020 (incorporated by reference to Exhibit 4.1 to Form 8-K filed on November 30, 2020).
4.13∞	Indenture, between Sunnova Helios V Issuer, LLC and Wells Fargo Bank, National Association, dated February 16, 2021.
10.1∞	Note Purchase Agreement, among Sunnova RAYS I Issuer, LLC, Sunnova RAYS I Depositor, LLC, Sunnova RAYS I Management, LLC, and the Purchasers named therein, dated March 28, 2019 (incorporated by reference to Exhibit 10.1 to Form S-1/A filed on July 3, 2019).
10.1.1∞	Note Purchase Agreement Supplement No. 1, among Sunnova RAYS I Issuer, LLC, Sunnova RAYS I Depositor, LLC, Sunnova RAYS I Management LLC, and the Purchasers named therein, dated March 28, 2019 (incorporated by reference to Exhibit 10.2 to Form S-1/A filed on July 3, 2019).
10.1.2∞	Note Purchase Agreement Supplement No. 2 and Amendment among Sunnova RAYS I Issuer, LLC, Sunnova RAYS I Depositor, LLC, Sunnova RAYS I Management LLC, and the Purchasers named therein, dated June 7, 2019 (incorporated by reference to Exhibit 10.2 to Form S-1 filed on June 27, 2019).
10.2∞	Note Purchase Agreement, by and among Sunnova Sol Issuer, LLC, Sunnova Sol Depositor, LLC, Sunnova Energy Corporation and Credit Suisse Securities (USA) LLC, dated February 5, 2020 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on February 11, 2020).
10.3∞	Note Purchase Agreement, by and among Sunnova Helios IV Issuer, LLC, Sunnova Helios IV Depositor, LLC, Sunnova Energy Corporation and Credit Suisse Securities (USA) LLC, dated June 15, 2020 (incorporated by reference to Exhibit 10.8 to Form S-1 filed on June 29, 2020).
10.4∞	Note Purchase Agreement, by and among Sunnova Sol II Issuer, LLC, Sunnova Sol II Depositor, LLC, Sunnova Energy Corporation and Credit Suisse Securities (USA) LLC, dated November 20, 2020 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on November 23, 2020).
10.7∞	Amended and Restated Credit Agreement, among Sunnova EZ-Own Portfolio, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 7 Holdings, LLC, Credit Suisse AS, New York Branch, Wells Fargo Bank, National Association, U.S. Bank National Association, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated March 27, 2019 (incorporated by reference to Exhibit 10.6 to Form S-1 filed on June 27, 2019).
10.7.1	Amendment No. 1 to Amended and Restated Credit Agreement, among Sunnova EZ-Own Portfolio, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 7 Holdings, LLC, Credit Suisse AGH, New York Branch, Wells Fargo Bank, National Association, U.S. Bank National Association, the Funding Agents from time to time party thereto, and the Lender from time to time party thereto, dated June 5, 2019 (incorporated by reference to Exhibit 10.3.1 to Form S-1 filed on June 29, 2020).
10.7.2	Amendment No. 2 to Amended and Restated Credit Agreement, among Sunnova EZ-Own Portfolio, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 7 Holdings, LLC, Credit Suisse AG, New York Branch, Wells Fargo Bank, National Association, U.S. Bank National Association, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated September 30, 2019 (incorporated by reference to Exhibit 10.18 to Form 10-Q filed on October 31, 2019).
10.7.3	Amendment No. 3 to the Amended and Restated Credit Agreement, among Sunnova EZ-Own Portfolio, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 7 Holdings, LLC, the Lenders party thereto, the Funding Agents party thereto and Credit Suisse AG, New York Branch, dated as of December 4, 2019 (incorporated by reference to Exhibit 10.4 to Form 10-K filed on February 25, 2020).
10.7.4	Amendment No. 4 to the Amended and Restated Credit Agreement, among Sunnova EZ-Own Portfolio, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 7 Holdings, LLC, the Lenders party thereto, the Funding Agents party thereto and Credit Suisse AG, New York Branch, dated as of January 29, 2020 (incorporated by reference to Exhibit 10.6 to Form 10-Q filed on May 15, 2020).
10.7.5	Amendment No. 5 to the Amended and Restated Credit Agreement, among Sunnova EZ-Own Portfolio, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 7 Holdings, LLC, the Lenders party thereto, the Funding Agents party thereto and Credit Suisse AG, New York Branch, dated as of March 31, 2020 (incorporated by reference to Exhibit 10.5 to Form 10-Q filed on May 15, 2020).
10.8	Third Amended and Restated Limited Performance Guaranty among Sunnova Energy Corporation, Sunnova EZ-Own Portfolio, LLC, and Credit Suisse AG, New York Branch, dated June 27, 2019 (incorporated by reference to Exhibit 10.8 to Form S-1/A filed on July 3, 2019).

Exhibit No.	Description
10.9∞	Credit Agreement among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated September 6, 2019 (incorporated by reference to Exhibit 10.16 to Form 10-Q filed on October 31, 2019).
10.9.1∞	First Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated December 2, 2019 (incorporated by reference to Exhibit 10.32 to Form 10-K filed on February 25, 2020).
10.9.2	Consent and Second Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated December 31, 2019 (incorporated by reference to Exhibit 10.7 to Form 10-Q filed on May 15, 2020).
10.9.3∞	Third Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated January 31, 2020 (incorporated by reference to Exhibit 10.33 to Form 10-K filed on February 25, 2020).
10.9.4∞	Fourth Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated February 28, 2020. (as incorporated by reference to Exhibit 10.2 to Form 10-Q filed on May 15, 2020).
10.9.5∞	Fifth Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated March 31, 2020 (incorporated by reference to Exhibit 10.4 to Form 10-Q filed on May 15, 2020).
10.9.6∞	Omnibus Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the lenders from time to time party thereto, dated May 14, 2020 (incorporated by reference to Exhibit 10.2.6 to Form S-1 filed on June 29, 2020).
10.9.7∞	Seventh Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated June 26, 2020 (incorporated by reference to Exhibit 10.2.7 to Form S-1 filed on June 29, 2020).
10.9.8∞	Eighth Amendment to the Credit Agreement, among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated October 28, 2020 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on November 30, 2020).
10.9.9∞	Ninth Amendment to Credit Agreement among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated November 9, 2020 (incorporated by reference to Exhibit 10.2 to Form 8-K filed on November 30, 2020).
10.9.10∞	Tenth Amendment and Waiver to Credit Agreement, by and among Sunnova TEP Holdings, LLC, Sunnova TE Management, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated January 29, 2021.
10.10∞	Credit Agreement among Sunnova TEP Inventory, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, dated December 30, 2019 (incorporated by reference to Exhibit 10.35 to Form 10-K filed on February 25, 2020).
10.10.1	Consent and Amendment, by and among Sunnova TEP Inventory, LLC, Credit Suisse AG, New York Branch, the Funding Agents from time to time party thereto, and the Lenders from time to time party thereto, Sunnova Inventory Pledgor, LLC, and Sunnova TEP Developer, LLC, dated November 30, 2020 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on November 30, 2020).
10.10.2∞	First Amendment to Credit Agreement and Security Agreements, by and among Sunnova TEP Inventory, LLC, Credit Suisse AG, New York Branch, the Lenders and Funding Agents party thereto, Sunnova Energy Corporation, Sunnova Inventory Pledgor, LLC and Sunnova TEP Developer, LLC, dated September 18, 2020 (incorporated by reference to Exhibit 10.2 to Form 10-Q filed on October 29, 2020).

Exhibit No.	Description
10.11	Parent Guaranty, dated December 30, 2019, by and among Sunnova Energy Corporation, Sunnova TEP Inventory, LLC and Credit Suisse AG, New York Branch (incorporated by reference to Exhibit 10.36 to Form 10-K filed on February 25, 2020).
10.11.1	Amended and Restated Parent Guaranty, by Sunnova Energy Corporation, Sunnova TEP Inventory, LLC and Credit Suisse AG, New York Branch, dated September 18, 2020 (incorporated by reference to Exhibit 10.3 to Form 10-Q filed on October 29, 2020).
10.12∞	Credit Agreement, by and among Sunnova Asset Portfolio 8, LLC, Sunnova SLA Management, LLC, Sunnova Asset Portfolio 8 Holdings, LLC, the Lenders party thereto, the Funding Agents party thereto and Banco Popular de Puerto Rico, dated September 30, 2020 (incorporated by reference to Exhibit 10.4 to Form 10-Q filed on October 29, 2020).
10.13	Limited Performance Guaranty, among Sunnova Energy Corporation, Sunnova Asset Portfolio 8, LLC and Banco Popular de Puerto Rico, dated September 30, 2020 (incorporated by reference to Exhibit 10.5 to Form 10-Q filed on October 29, 2020).
10.14∞	Purchase and Exchange Agreement, by and among Sunnova Energy International Inc. and the Investors, as defined therein, dated May 13, 2020 (incorporated by reference to Exhibit 10.6 to Form S-1 filed on June 29, 2020).
10.15	Board Designation Agreement, by and among Sunnova Energy International, Inc., Kayne Multiple Strategy Fund, L.P., Kayne Solutions Fund, L.P., San Bernardino County Employees' Retirement Association and TFGI Holdings, LLC, dated May 14, 2020 (incorporated by reference to Exhibit 10.7 to Form S-1 filed on June 29, 2020).
10.16	Office Building Lease Agreement, between Sunnova Energy Corporation and 20 Greenway Plaza LLC, dated August 29, 2014, for 42,238 square feet of office space known as Suites 350, 475, and 750 of the building located at 20 East Greenway Plaza, Houston, Texas 77046 (incorporated by reference to Exhibit 10.11 to Form S-1 filed on June 27, 2019).
10.16.1	Amendment No. 1 to Office Building Lease Agreement, between Sunnova Energy Corporation and 20 Greenway Plaza LLC, dated as dated May 18, 2015 (incorporated by reference to Exhibit 10.12 to Form S-1 filed on June 27, 2019).
10.16.2	Amendment No. 2 to Office Building Lease Agreement, between Sunnova Energy Corporation and 20 Greenway Plaza LLC, dated June 1, 2015 (incorporated by reference to Exhibit 10.13 to Form S-1 filed on June 27, 2019).
10.16.3	Amendment No. 3 to Office Building Lease Agreement, between Sunnova Energy Corporation and 20 Greenway Plaza LLC, dated November 15, 2018 (incorporated by reference to Exhibit 10.14 to Form S-1 filed on June 27, 2019).
10.16.4	Amendment No. 4 to Office Building Lease Agreement, between Sunnova Energy Corporation and 20 Greenway Plaza LLC, dated May 7, 2019 (incorporated by reference to Exhibit 10.15 to Form S-1 filed on June 27, 2019).
10.16.5	Amendment No. 5 to Office Building Lease Agreement by and between Sunnova Energy Corporation and SCP 20 Greenway, LLC dated September 12, 2019 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on September 13, 2019).
10.17+	Amended and Restated 2013 Stock Option Plan, dated July 29, 2019 (incorporated by reference to Exhibit 10.17 to Form 8-K filed on July 29, 2019).
10.18+	Amended and Restated Stock Option Plan, dated July 29, 2019 (incorporated by reference to Exhibit 10.18 to Form S-1 filed on July 29, 2019).
10.19+	Sunnova Energy International Inc. 2019 Long-Term Incentive Plan and Form of Award Letters (incorporated by reference to Exhibit 10.16 to Form 8-K filed on July 29, 2019).
10.20+	Form of Restricted Stock Unit Award Letter (incorporated by reference to Exhibit 10.21 to Form S-1 filed on June 27, 2019).
10.21+	Form of Option Award Letter (incorporated by reference to Exhibit 10.22 to Form S-1 filed on June 27, 2019).
10.22+	Form of Restricted Stock Unit Award Letter for Non-Employee Director (incorporated by reference to Exhibit 10.23 to Form S-1 filed on June 27, 2019).
10.23+	Form of Executive Severance Agreements (incorporated by reference to Exhibit 10.26 to Form S-1/A filed on July 17, 2019).

Exhibit No.	Description
10.24+	Form of Indemnification Agreement (incorporated by reference to Exhibit 10.27 to Form S-1/A filed on July 3, 2019).
10.25∞	Note Purchase Agreement, by and among Sunnova Helios V Issuer, LLC, Sunnova Helios V Depositor, LLC, Sunnova Energy Corporation and Credit Suisse Securities (USA) LLC, dated February 8, 2021.
10.26	Earnout Agreement, by and between LEN X, LLC and Sunnova Energy International Inc., dated as of February 17, 2021 (incorporated by reference to Exhibit 10.1 to Form 8-K filed on February 19, 2021).
21.1	List of subsidiaries of the Registrant.
23.1	Consent of Independent Registered Public Accounting Firm.
31.1	Certification of Chief Executive Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification of Chief Financial Officer, pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1	Certification of Chief Executive Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of Chief Financial Officer, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document - the instance document does not appear in the Interactive Data File because its tags are embedded within the inline XBRL document.
101.SCH	XBRL Taxonomy Extension Schema Linkbase Document.
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.
104	Cover Page Interactive Data File (embedded within the inline XBRL document).

+ Indicates management contract or compensatory plan.
∞ Portions of this exhibit have been omitted.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SUNNOVA ENERGY INTERNATIONAL INC.

Date: February 25, 2021 By: /s/ William J. Berger
William J. Berger
Chief Executive Officer and Director
(Principal Executive Officer)

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ William J. Berger William J. Berger	Chief Executive Officer and Director *(Principal Executive Officer)*	February 25, 2021
/s/ Robert L. Lane Robert L. Lane	Chief Financial Officer *(Principal Financial and Accounting Officer)*	February 25, 2021
/s/ Anne Slaughter Andrew Anne Slaughter Andrew	Director	February 25, 2021
/s/ Nora Brownell Nora Brownell	Director	February 25, 2021
/s/ Rahman D'Argenio Rahman D'Argenio	Director	February 25, 2021
/s/ Doug Kimmelman Doug Kimmelman	Director	February 25, 2021
/s/ Mark Longstreth Mark Longstreth	Director	February 25, 2021
/s/ Akbar Mohamed Akbar Mohamed	Director	February 25, 2021
/s/ Michael C. Morgan Michael C. Morgan	Director	February 25, 2021
/s/ C. Park Shaper C. Park Shaper	Director	February 25, 2021