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: 001-35480

Enphase Energy, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**20-4645388**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

47281 Bayside Parkway
Fremont, CA 94538
(Address of principal executive offices, including zip code)

(877) 774-7000
(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, $0.00001 par value per share	**ENPH**	**Nasdaq Global Market**

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

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 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 x 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 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 checkmark 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 Exchange Act). Yes ☐ No ☒

The aggregate market value of the voting stock held by non-affiliates of the registrant on June 30, 2020, based upon the closing price of $47.57 of the registrant's common stock as reported on the Nasdaq Global Market, was approximately $4.0 billion.

As of February 8, 2021, there were 129,021,311 shares of the registrant's common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year ended December 31, 2020 are incorporated by reference into Part III of this Annual Report on Form 10-K.

Enphase Energy, Inc.

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Forward-Looking Statements

This Annual Report on Form 10-K contains "forward-looking statements" as defined under securities laws. Forward-looking statements include statements that are not historical facts and can be identified by terms such as "anticipates," "believes," "could," "seeks," "estimates," "expects," "intends," "may," "plans," "potential," "predicts, "projects," "should," "will," "would" or similar expressions and the negatives of those terms. These forward-looking statements are contained principally in Item 1, Business; Item 1A, Risk Factors; Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations; and other sections of this Annual Report on Form 10-K. Our actual results or experience could differ significantly from the forward-looking statements. Factors that could cause or contribute to these differences include those discussed in Item 1A, Risk Factors, as well as those discussed elsewhere in this Annual Report on Form 10-K.

Forward-looking statements are inherently uncertain, and you should not place undue reliance on these statements, which speak only as of the date that they were made. These cautionary statements should be considered in connection with any written or oral forward-looking statements that we may issue in the future. We do not undertake any obligation to release publicly any revisions to these forward-looking statements after completion of the filing of this Annual Report on Form 10-K to reflect later events or circumstances or to reflect the occurrence of unanticipated events.

In this report, unless otherwise indicated or the context otherwise requires, "Enphase Energy," "Enphase," "the Company," "we," "us," and "our" refer to Enphase Energy, Inc., a Delaware corporation, and its subsidiaries.

Risk Factors Summary

Below is a summary of material factors that make an investment in our securities speculative or risky. Importantly, this summary does not address all of the risks and uncertainties that we face. Additional discussion of the risks and uncertainties summarized in this risk factor summary, as well as other risks and uncertainties that we face, can be found under "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K. The below summary is qualified in its entirety by that more complete discussion of such risks and uncertainties. You should consider carefully the risks and uncertainties described under "Risk Factors" in Part I, Item 1A of this Annual Report on Form 10-K as part of your evaluation of an investment in our securities:

- If demand for solar energy solutions does not grow or grows at a slower rate than we anticipate, including as a result of the ongoing COVID-19 pandemic, our business will suffer.
- The rapidly changing solar industry makes it difficult to evaluate our current business and future prospects.
- Our business is currently being adversely affected and could be materially and adversely affected in the future by the evolving effects of the ongoing COVID-19 pandemic. The COVID-19 pandemic may continue to, and other actual or threatened epidemics, pandemics, outbreaks, or public health crises may in the future adversely affect our customers' financial condition and our business.
- We depend upon a small number of outside contract manufacturers, and our business and operations could be disrupted if we encounter manufacturing problems with these contract manufacturers.
- We depend on sole-source and limited source suppliers for key components and products. If we are unable to source these components on a timely basis, we will not be able to deliver our products to our customers.
- If we or our contract manufacturers are unable to obtain raw materials in a timely manner or if the price of raw materials increases significantly, production time and product costs could increase, which may adversely affect our gross margin and our business.
- Manufacturing problems could result in delays in product shipments to customers which would adversely affect our revenue competitive position and reputation.
- We rely primarily on distributors, installers, and providers of solar financing to assist in selling our products to consumers, and the failure of these resellers to perform at the expected level, or at all, would have an adverse effect on our business, financial condition and results of operations.
- The loss of, or events affecting, one of our major customers could reduce our sales and have a material adverse effect on our business, financial condition and results of operations.
- U.S. government actions with regard to the solar energy sector or international trade could materially harm our business, financial condition and results of operations.
- The solar industry is highly competitive, and we expect to face increased competition as new and existing competitors introduce products, which could negatively impact our business, financial condition and result of operations.
- Our recent and planned expansion into existing and new markets could subject us to additional business, financial and competitive risks.
- Our significant international operations subject us to additional risks that could adversely affect our business.
- We may fail to capture customers in the new product and geographic markets that we are pursuing, which would prevent us from increasing our revenue and market share.
- Our microinverter systems, including our storage solution, integrated AC Module, eighth-generation IQ microinverters and Ensemble technology, may not achieve broader market acceptance, which would prevent us from increasing our revenue and market share.
- The reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity applications could reduce demand for solar PV systems and harm our business.
- Our gross profit may fluctuate over time, which could impair our ability to achieve or maintain profitability.

- We are under continuous pressure to reduce the prices of our products, which has adversely affected, and may continue to adversely affect, our gross margins.
- Defects and poor performance in our products could result in loss of customers, decreased revenue and unexpected expenses, and increases in warranty, indemnity and product liability claims arising from defective products.
- As part of growing our business, we have made and expect to continue to make acquisitions. If we fail to successfully select, execute or integrate our acquisitions, then our business and operating results could be harmed and our stock price could decline.
- We invest in companies for both strategic and financial reasons but may not realize a return on our investments.
- Our business has been and could continue to be affected by seasonal trends and construction cycles.
- If we fail to retain our key personnel or if we fail to attract additional qualified personnel, we may not be able to achieve our anticipated level of growth and our business could suffer.
- We could be subject to breaches of our information technology systems, which could cause significant reputational, legal and financial damages. 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.
- If we fail to protect, or incur significant costs in defending, our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.
- From time to time we are involved in a number of legal proceedings and, while we cannot predict the outcomes of such proceedings and other contingencies with certainty, some of these outcomes could adversely affect our business and financial condition.
- Conversion of our Convertible Notes may dilute the ownership interest of existing stockholders or may otherwise depress the price of our common stock. The convertible note hedge and warrant transactions and/or their early termination may affect the value of our common stock.

PART I

Item 1. Business

Our Company

We are a global energy technology company. We deliver smart, easy-to-use solutions that manage solar generation, storage and communication on one single platform. We revolutionized the solar industry with our microinverter technology and we produce a fully integrated solar-plus-storage solution. To date, we have shipped more than 32 million microinverters, and approximately 1.4 million Enphase residential and commercial systems have been deployed in more than 130 countries.

COVID-19 update

The ongoing COVID-19 pandemic ("COVID-19") continues to cause disruptions and uncertainties, including in the core markets in which we operate. The COVID-19 pandemic has significantly curtailed the movement of people, goods and services and had a notable impact on general economic conditions including but not limited to the temporary closures of many businesses, "shelter in place" orders and other governmental regulations, and reduced consumer spending. The most significant near-term impacts of COVID-19 on our financial performance are a decline in sales orders as future residential and commercial system owners are canceling sales meetings with system installation professionals or postponing system installations. As the purchase of new solar energy management solutions declines as part of the impact of COVID-19 on consumer spending, many businesses through which we distribute our products are working at limited operational capacity. The extent of the impact of COVID-19 on our future operational and financial performance will depend on various future developments, including the duration and spread of the outbreak, duration of employees working remotely, impact on our customers, effect on our sales cycles or costs, and effect on our supply chain and vendors, all of which are uncertain and cannot be predicted, but which could have a material adverse effect on our business, results of operations or financial condition. Further information relating to the risks and uncertainties related to the ongoing COVID-19 pandemic may be found in Part I, Item 1A "Risk Factors" of this Annual Report on Form 10-K.

Industry Background

Historically, traditional central inverters were the only inverter technology used for solar photovoltaic ("PV") installations. In an installation consisting of a traditional central inverter, the solar PV modules are connected in series strings. In a large installation, there are multiple series strings connected in parallel. The aggregated voltage from each of these strings is then fed into a large central inverter. We believe that traditional central inverters have a number of design and performance challenges limiting innovation and their ability to reduce the cost of solar power systems, including the following:

- *Productivity limits*. If solar modules are wired using a traditional central inverter—group or "string" of modules are wired in series, and an entire string's output is limited by the output of the lowest-performing module. Because of its string design, there is a single point of failure risk with the traditional central inverter approach.
- *Reliability issues*. Traditional central inverters are the single most common component of solar installations to fail, resulting in system downtime and adversely impacting total energy output. As a result, central inverters typically carry warranties of only 5 to 10 years.
- *Complex design and installation requirements*. The central inverter-based solar PV installation requires greater effort on the part of the installer, both in terms of design and on-site labor. Central inverter installations require string design and calculations for safe and reliable operation, as well as specialized equipment such as DC combiners, conduits and disconnects. In addition, the use of high-voltage direct current ("DC") requires specialized knowledge and training and safety precautions to install central inverter technology.
- *Lack of monitoring*. The majority of solar installations with central inverter technology offer limited monitoring capabilities. If a module in a central inverter system fails or is not performing to specification, the resulting loss of energy can go unnoticed for an extended period of time.

- *Safety issues*. Central inverter solar PV installations have a wide distribution of high-voltage (600 volts to 1,000 volts) DC wiring. If damaged, DC wires can generate sustained electrical arcs, reaching temperatures of more than 5,000 °F. This creates the risk of fire for solar PV installation owners and injury for installers and maintenance personnel.

These challenges of traditional central inverters have a direct impact on the cost and expected return on investment of solar installations to both installers and system owners:

- *Installer*. Solar PV installers aim for simple installation design, fast installation times and maximum system performance and predictability. The installation of high-voltage DC central inverter technology, however, requires significant preparation, precautionary safety measures, time-consuming string calculations, extensive design expertise and specialized installation equipment, training and knowledge. Together, these factors significantly increase complexity and cost of installation and limit overall productivity for the installer.
- *System owner*. Solar power system owners aim for high energy production, low cost, high reliability, and low maintenance requirements, as well as reduced fire risks. With traditional central inverters, owners often are unable to optimize the size or shape of their solar PV installations due to string design limitations. As such, they experience performance loss from shading and other obstructions, can face frequent system failures and lack the ability to effectively monitor the performance of their solar PV installation. In addition, central inverter installations operate at high-voltage DC which bears significant fire risks. Further, due to their large size, central inverter installations can affect architectural aesthetics of the house or commercial building.

The solar industry is transitioning from solar only systems to complete energy management solutions, which consist of solar-plus storage and load control.

Our Products

We design, develop, manufacture and sell home energy solutions that manage energy generation, energy storage and control and communications on one intelligent platform. We have revolutionized the solar industry by bringing a systems approach to solar technology and by pioneering a semiconductor-based microinverter that converts energy at the individual solar module level and, combined with our proprietary networking and software technologies, provides advanced energy monitoring and control. This is vastly different than a central inverter system using string modules, with or without an optimizer, approach that only converts energy of the entire array of solar modules from a single high voltage electrical unit and lacks intelligence about the energy producing capacity of the solar array. The Enphase Home Energy Solution with IQ™ platform, which is our current generation integrated solar, storage and energy management offering, enables self-consumption and delivers our core value proposition of yielding more energy, simplifying design and installation, and improving system uptime and reliability. The IQ family of microinverters, like all of our previous microinverters, is fully compliant with NEC 2014 and 2017 rapid shutdown requirements. Unlike string inverters, this capability is built-in, with no additional equipment necessary.

The Enphase Home Energy Solution with IQ™ brings a high technology, networked approach to solar generation plus energy storage, by leveraging our design expertise across power electronics, semiconductors and cloud-based software technologies. Our integrated approach to energy solutions maximizes a home's energy potential while providing advanced monitoring and remote maintenance capabilities. The Enphase Home Energy Solution with IQ uses a single technology platform for seamless management of the whole solution, enabling rapid commissioning with the Installer Toolkit™; consumption monitoring with our Envoy™ Communications Gateway with IQ Combiner+, Enphase Enlighten, a cloud-based energy management platform, and our Enphase AC Battery™. System owners can use Enphase Enlighten to monitor their home's solar generation, energy storage and consumption from any web-enabled device. Unlike some of our competitors, who utilize a traditional inverter, or offer separate components of solutions, we have built-in system redundancy in both PV generation and energy storage, eliminating the risk that comes with a single-point of failure. Further, the nature of our cloud-based, monitored system allows for remote firmware and software updates, enabling cost-effective remote maintenance and ongoing utility compliance.

The Enphase IQ 7™ microinverter and Enphase IQ 7+™ microinverter, part of our seventh-generation IQ product family, support high-powered 60-cell and 72-cell solar modules and integrate with alternating current ("AC") modules. Our IQ 7X™ microinverter addresses 96-cell photovoltaic ("PV") modules up to 400W direct DC and with its 97.5% California Energy Commission ("CEC") efficiency rating, is ideal for integration into high power modules.

During 2020, we started shipping our IQ 7A™ for high-power monofacial and bifacial solar modules to customers in Australia and Europe. Our IQ 7A microinverters, which began shipping to customers in North America in November 2019, support up to 450W high-power modules, targeting high-power residential and commercial applications. Our customers will be able to pair the IQ 7A microinverter with monofacial or bifacial solar modules, up to 450 W, from solar module manufacturers who are expected to introduce high-power variants of their products in the next three years.

AC Module ("ACM") products are integrated systems which allow installers to be more competitive through improved logistics, reduced installation times, faster inspection and training. We continued to make steady progress during the fourth quarter of 2020 with our ACM partners, including SunPower Corporation, Panasonic Corporation of North America, LONGi Solar, Solaria Corporation, Hanwha Q CELLS, and Maxeon Solar Technologies, Sonnenstromfabrik (CS Wismar GmBH), and DMEGC Solar.

During 2020, we introduced to customers in North America our Enphase storage system, featuring our Ensemble™ management technology, which powers the world's first grid-independent microinverter-based storage system. Our next-generation battery in North America is Enphase Encharge 10™ or Encharge 3™ storage systems, with usable and scalable capacity of 10.1 kWh and 3.4 kWh, respectively. Enphase Encharge™ storage systems feature Enphase embedded grid-forming microinverters that enable the Always-On capability that keeps homes powered when the grid goes down, and the ability to save money when the grid is up. These systems are compatible with both new and existing Enphase IQ solar systems with IQ 6™, IQ 7™, M215 and M250 microinverters and provide a simple upgrade path for our existing solar customers. We started production shipments of Enphase Encharge storage systems to customers in North America during the second quarter of 2020.

We expect further revisions of our storage products with Ensemble technology to be released in 2021, with a focus on the grid-agnostic IQ 8 PV microinverter for residential installations. Our next-generation IQ 8™ system is based upon our Always On Enphase Ensemble™ energy management technology. This system has five components: 1) energy generation, which is accomplished with the grid-agnostic microinverter IQ 8; 2) energy storage, which is achieved by the Encharge™ battery with capacities of 10.1 kWh and 3.4 kWh; 3) Enpower™ smart switch, which includes a microgrid interconnect device ("MID"); 4) communication and control via the combiner box with the Envoy gateway; and 5) Enlighten, which is the internet of things ("IoT"), cloud software.

The advantage of IQ 8s on the roof will be that these grid-forming microinverters produce power from panels even during blackouts, as long as the sun is still shining. It addresses a major drawback of traditional solar installations without the need for storage and is differentiated in that respect.

We also expect to introduce both Enphase IQ 8D™ for commercial solar purposes and Ensemble-in-a Box, an off-grid solar and storage system.

Our Strategy

Our objective is to be the leading provider of energy management solutions worldwide. Key elements of our strategy include:

- *Best-in-class customer experience.* Our value proposition is to deliver products that are productive, reliable, smart, simple and safe, and superior customer service, to enable homeowners' storage and energy independence. On the service front, our installer, distributor and module partners are our first line of association with our ultimate customer, the homeowner and business user. Our goals are to partner better with these service providers so that we can provide exceptional high quality service to our homeowner. We are convinced that continued reinforcement of customer experience improvements can be a competitive advantage for us.
- *Grow market share worldwide.* We intend to capitalize on our market leadership in the microinverter category and our momentum with installers and owners to expand our market share position in our core markets. In addition, we intend to further increase our market share in Europe, Asia Pacific and Latin America regions. Further, we intend to expand into new markets, including emerging markets, with new and existing products and local go-to-market capabilities.
- *Expand our product offerings.* We continue to invest in research and development to develop all components of our energy management solution and remain committed to providing our customers and partners with best-in-class power electronics, storage solutions, communications, and load control all managed by a cloud-based energy management system.

- *Increase power and efficiency and reduce cost per watt.* Our engineering team is focused on continuing to increase average power conversion efficiency above 97% and AC output power beyond 350 watts in order to pair with DC modules rated over 400 watts. We intend to continue to leverage our semiconductor integration, power electronics expertise and manufacturing economies of scale to further reduce cost per watt.
- *Extend our technological innovation.* We distinguish ourselves from other inverter companies with our systems-based and high technology approach, and the ability to leverage strong research and development capabilities.
- *Focus on the homeowner and installer partners.* We are focused on generating revenue through digitalization of the business-to-business and business-to-customer process of the partner and customer journey. Future key focus is to expand our digital presence through enhancing our array of tools on our digital platforms to keep us continually connected with our installers and homeowners, as well as increasing the use of the online store significantly.

Customers and Sales

We currently offer solutions targeting the residential and commercial markets in the U.S., Canada, Mexico, Central American markets, Europe, Australia, New Zealand, India and certain other Asian markets. We sell our solutions primarily to solar distributors who resell to installers and integrators, who in turn integrate our products into complete solar PV installations for residential and commercial system owners. We work with many of the leading solar and electrical distributors. In addition to our distributors, we sell directly to large installers, original equipment manufacturers ("OEM"), strategic partners and homeowners. Our OEM customers include solar module manufacturers who bundle our products and solutions with their solar module products and resell to both distributors and installers. We also sell certain products and services directly to the homeowners and the do-it-yourself market through our legacy product upgrade program or our online store. Strategic partners include a variety of companies including industrial equipment suppliers and providers of solar financing solutions. In 2020, one customer accounted for approximately 29% of total net revenues. The revenues generated from the U.S. market have represented 82%, 84% and 69% of our total revenue for annual period ending on December 31, 2020, 2019 and 2018, respectively.

Manufacturing, Quality Control and Key Suppliers

We outsource the manufacturing of our products to manufacturing partners. Flex Ltd. and affiliates ("Flex") and Salcomp Manufacturing India Pvt. Ltd. ("Salcomp") assemble and test our microinverter, AC Battery storage systems and Envoy products. Prices for such services are agreed to by the parties on a quarterly basis, and we are obligated to purchase manufactured products and raw materials that cannot be resold upon the termination of the agreement. Flex also provides receiving, kitting, storage, transportation, inventory visibility and other value-added logistics services at locations managed by Flex. Hong Kong Sinbon Industrial Limited manufactures our custom AC cables. During the fourth quarter of 2020, we qualified Amperex Technology Limited ("ATL") in addition to A123 Systems LLC ("A123") as our lithium-ion batteries suppliers to help increase our available capacity. In addition, we rely on several unaffiliated companies to supply certain components used in the fabrication of our products.

Our partnership with Flex and Salcomp provides us with strategic manufacturing capabilities and flexibility. In the beginning of the second quarter of 2019, we announced the first shipment of seventh-generation Enphase IQ™ microinverters produced in Mexico as part of our expanded manufacturing agreement with Flex. In addition, we began microinverter production at Salcomp in India and started shipping to customers in the fourth quarter of 2020. We anticipate that this additional manufacturing capacity in Mexico and India could help us to not only mitigate tariffs, but also better serve our customers by cutting down delivery times and diversifying our supply chain.

Customer Service

We continue to cultivate an organizational focus on customer satisfaction and are committed to providing a best-in-class customer experience. We maintain high levels of customer engagement through our customer support group and the Enlighten cloud-based software portal. During 2020, we introduced the Enphase Community to help installers and homeowners solve their problems quickly. We launched Service-on-the-Go™ in Australia, which installers can use from their mobile devices to get service instantly. Our Net Promoter Score (commonly referred to as "NPS") improved from 52% in 2019 to 65% in 2020 through multiple customer service initiatives. In 2020, the service organization achieved average wait time of under 3 minutes.

Research and Development

We devote substantial resources to research and development with the objective of developing new products and systems, adding new features to existing products and systems and reducing unit costs. Our research and development roadmap identifies new system-level features and defines improvement targets for product cost and performance to support our growth and to optimize the effectiveness of our energy management solutions for our customers. We measure the effectiveness of our research and development against metrics that include product cost, efficiency, reliability and power output, as well as feature content and ease-of-use.

Intellectual Property

We operate in an industry in which innovation, investment in new ideas and protection of our intellectual property ("IP"), rights are critical for success. We protect our technology through a variety of means, including through patent, trademark, copyright and trade secrets laws in the U.S. and similar laws in other countries, confidentiality agreements and other contractual arrangements. As of December 31, 2020, we had 234 issued U.S. patents, 80 issued foreign patents, 60 pending U.S. patent applications and 33 pending foreign counterpart patent applications. Our issued patents are scheduled to expire between years 2021 and 2040.

We license certain power line communications technology and software for integration into our custom application specific integrated circuits ("ASIC"s), under a fully-paid, royalty-free license, which includes the right for us to source directly from the licensor's suppliers or manufacture certain ASIC hardware should the licensor fail, under certain conditions, to deliver such technology in the future. This license includes a limited exclusivity period during which the licensor has agreed not to license the licensed technology to any third-party manufacturer of electronic components or systems for use in the solar energy market. The license carries a 75-year term, subject to earlier termination upon agreement of the parties, or by us in connection with the insolvency of the licensor.

We also license digital intellectual property cores, or IP blocks, for integration into and distribution with certain electronic components built into our products, including our ASICs, complex programmable logic devices ("CPLDs"), and field-programmable gate arrays or FPGAs. This is a fully-paid, non-exclusive, non-transferable, royalty-free license providing for the integration of such digital IP blocks in an unlimited number of electronic component designs and the distribution of such electronic components with our products. Other than in connection with the distribution of our products, our use of such digital IP blocks is limited to certain of our business sites. The license is perpetual, subject to earlier termination by either party upon the termination, suspension or insolvency of the other party's business, or by the licensor upon a breach of the license agreement by us. In addition, we license open source software from third parties for integration into our Envoy products. Such open source software is licensed under open source licenses. These licenses are perpetual and require us to attribute the source of the software to the original software developer, which we provide via our website.

We continually assess the need for patent protection for those aspects of our technology, designs and methodologies and processes that we believe provide significant competitive advantages. A majority of our patents relate to DC to AC power conversion and energy storage for alternative energy power systems, as well as power system monitoring, control and management systems.

With respect to proprietary know-how that is not patentable and processes for which patents are difficult to enforce, we rely on trade secret protection and confidentiality agreements to safeguard our interests. We believe that many elements of our microinverter and storage manufacturing processes involve proprietary know-how, technology or data that are not covered by patents or patent applications, including technical processes, test equipment designs, algorithms and procedures.

We own or have rights to various registered trademarks and service marks in the U.S. and in other countries, including Enphase, Ensemble, Encharge Envoy, Enpower and Enlighten, and rely on both registration of our marks as well as common law protection where available.

All of our research and development personnel have entered into confidentiality and proprietary information agreements with us. These agreements address intellectual property protection issues and require our employees to assign to us all of the inventions, designs and technologies they develop during the course of employment with us.

We also require our customers and business partners to enter into confidentiality agreements before we disclose any sensitive aspects of our technology or business plans.

As part of our overall strategy to protect our intellectual property, we may take legal actions to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology.

Seasonality

Historically, the majority of our revenues are from the North American and European regions which experience higher sales of our products in the second, third and fourth quarters and have been affected by seasonal customer demand trends, including weather patterns and construction cycles. The first quarter historically has had softer customer demand in our industry, due to these same factors. Although these seasonal factors are common in the solar sector, historical patterns should not be considered a reliable indicator of our future sales activity or performance.

Government Regulations

Our business activities are global and are subject to various federal, state, local, and foreign laws, rules and regulations. For example, substantially all of our import operations are subject to complex trade and customs laws, regulations and tax requirements such as sanctions orders or tariffs set by governments through mutual agreements or unilateral actions. In addition, the countries in which our products are manufactured or imported may from time to time impose additional duties, tariffs or other restrictions on our imports or adversely modify existing restrictions. Changes in tax policy or trade regulations, the disallowance of tax deductions on imported merchandise, or the imposition of new tariffs on imported products, could have an adverse effect on our business and results of operations. Compliance with these laws, rules and regulations has not had, and is not expected to have, a material effect on our capital expenditures and results of operations.

Privacy and Security Laws

There are also data privacy and security laws to which we are currently, and/or may in the future, be subject. The U.S., federal government, individual U.S. states, EU member countries and other jurisdictions, including Switzerland, have adopted data protection laws and regulations which impose significant compliance obligations. Moreover, the collection and use of personal health data in the EU is governed by the provisions of the EU General Data Protection Regulation (“GDPR”).

The GDPR, which is wide-ranging in scope, imposes several requirements relating to the control over personal data by individuals to whom the personal data relates, the information provided to the individuals, the documentation we must maintain, the security and confidentiality of the personal data, data breach notification and the use of third-party processors in connection with the processing of personal data. The GDPR also imposes strict rules on the transfer of personal data out of the EU, provides an enforcement authority and authorizes the imposition of large penalties for noncompliance, including the potential for significant fines. The GDPR requirements apply not only to third-party transactions, but also to transfers of information between us and our subsidiaries, including employee information. The GDPR has increased our responsibility and potential liability in relation to all types of personal data that we process, including in clinical trials, and we may be required to put in place additional mechanisms to ensure compliance with the GDPR, which could divert management’s attention and increase our cost of doing business. However, despite our ongoing efforts to bring our practices into compliance with the GDPR, we may not be successful either due to various factors within our control or other factors outside our control. It is also possible that local data protection authorities may have different interpretations of the GDPR, leading to potential inconsistencies amongst various EU member states.

Additionally, in June 2018, the state of California enacted the California Consumer Privacy Act of 2018 ("CCPA"), which contains requirements similar to GDPR for the handling of personal information of California residents, which became effective in January 2020. The CCPA establishes a privacy framework for covered businesses, including an expansive definition of personal information and data privacy rights for California residents. The CCPA includes a framework with potentially severe statutory damages and private rights of action. The CCPA requires covered companies to provide new disclosures to California consumers (as that word is broadly defined in the CCPA), provide such consumers new ways to opt-out of certain sales of personal information, and allow for a new cause of action for data breaches. It remains unclear how the CCPA will be interpreted, but as currently written, it will likely impact our business activities and exemplifies the vulnerability of our business to not only cyber threats but also the evolving regulatory environment related to personal data. As we expand our operations, the CCPA may increase our compliance costs and potential liability. Some observers have noted that the CCPA could mark the beginning of a trend toward more stringent privacy legislation in the United States. Additionally, other states are beginning to pass similar laws.

Government Incentives

U.S. federal, state, and local government bodies, as well as non-U.S. government bodies provide incentives to owners, distributors, system integrators and manufacturers of solar energy systems to promote solar energy in the form of rebates, tax credits, lower VAT rate and other financial incentives such as system performance payments, payments for renewable energy credits associated with renewable energy generation and exclusion of solar energy systems from property tax assessments. The market for on-grid applications, where solar power is used to supplement a customer's electricity purchased from the utility network or sold to a utility under tariff, often depends in large part on the availability and size of these government subsidies and economic incentives, which vary by geographic market and from time to time, thus helping to catalyze customer acceptance of solar energy as an alternative to utility-provided power.

Our revenue in the fourth quarter of 2019 and first quarter of 2020 was positively impacted by the scheduled phase-down of the investment tax credit for solar projects under Section 48(a) (the "ITC") of the Internal Revenue Code of 1986, as amended (the "Code"). The Renewable Energy and Job Creation Act of 2008 provided a 30% federal tax credit for residential and commercial solar installations through December 31, 2019, which was reduced to a tax credit of 26% for any solar energy system that began construction during 2020 through December 31, 2022, and 22% thereafter to December 31, 2023 before being reduced to 10% for commercial installations and 0% for residential installations beginning on January 1, 2024. As a result, several of our customers explored opportunities to purchase products in 2019 to take advantage of safe harbor guidance from the IRS published in June 2018, allowing them to preserve the historical 30% investment tax credit for solar equipment purchased in 2019 for solar projects that are completed after December 31, 2019.

Competition

The markets for our products are highly competitive, and we compete with central and string inverter manufacturers, storage system manufacturers and new technologies that compete with our business. The principal areas in which we compete with other companies include:

- product performance and features;
- total cost of ownership;
- breadth of product line;
- local sales and distribution capabilities;
- module compatibility and interoperability;
- reliability and duration of product warranty;
- technological expertise;
- brand recognition;
- customer service and support;
- compliance with industry standards and certifications;
- compliance with current and planned local electrical codes;

- integration with storage offerings;
- size and financial stability of operations;
- size of installed base; and
- local manufacturing and product content.

Several of our existing and potential competitors are significantly larger than we are and may have greater financial, marketing, distribution, and customer support resources, and may have significantly broader brand recognition, especially in certain markets. In addition, some of our competitors have more resources and experience in developing or acquiring new products and technologies and creating market awareness for these offerings

Competitors in the inverter market include, among others, SolarEdge Technologies, Inc., Fronius International GmbH, SMA Solar Technology AG, AP Systems, Generac, Tesla, Inc., Huawei Technologies Co. Ltd., Delta, Ginglong, Sungrow, Solax and other companies offering string inverters with and without solar optimizers. We believe that our microinverter solutions offer significant advantages and competitive differentiation relative to traditional central or string inverter technology, even when supplemented by DC-to-DC optimizers on the roof. Competitors in the storage market include Tesla, LG Chem, Sonnen, Generac, Panasonic, BYD, E3/DC, Senec, Schneider, Goal Zero, Simpliphi and other producers of battery cells and integrated storage systems.

Human Capital Resources

As of December 31, 2020, we had 850 full-time employees. Of the full-time employees, 369 were engaged in research and development, 302 in sales and marketing, 96 in general and administration and 83 in manufacturing and operations. Of these employees, 321 were in the United States, 352 in India, 82 in New Zealand, 44 in Europe, 16 in Australia, 18 in China,16 in Mexico and 1 in Canada.

None of our employees are represented by a labor union; however, our employees in France are represented by a collective bargaining agreement. We have not experienced any employment-related work stoppages, and we consider our relations with our employees to be good.

Culture

Supporting our purpose to “Advance a sustainable future for all,” all employees are expected to uphold the following core values that drive our culture:

- Customer First
- Integrity
- Innovation
- Teamwork
- Quality

These core values are represented by teamwork, performance and reward system. Values are reinforced in new hire training, culture workshops and everyday interactions.

Talent

Successful execution of our strategy is dependent on attracting, continuous career development and retention of key employees and members of our management team. The skills, experience and industry knowledge of our employees significantly benefit our operations and financial performance. We continuously evaluate, modify, and enhance our internal processes and technologies to increase employee engagement, productivity, and efficiency.

We are committed to promoting and cultivating an inclusive and diverse culture that welcomes and celebrates everyone without bias. In addition, we look to actively engage within our communities to foster and attain social equity.

Compensation Philosophy

Our compensation philosophy creates the framework for our rewards strategy. We have a pay-for-performance culture that ties compensation to the performance of the individual and the company. We provide competitive compensation programs that focus on the following five key elements:

- Pay-for-performance: Reward and recognize leading contributors and high potential employees by targeting the 65th percentile of market for total direct compensation, which includes base salary, quarterly bonus, and stock-based compensation;
- External market-based research: Pay levels that are competitive with respect to the labor markets in which we compete for talent;
- Internal equity: Providing for fair pay relationships within our organization;
- Fiscal responsibility: Providing affordable programs that are compliant with the local laws; and
- Legal compliance: Ensure the organization is legally compliant in all states and countries in which we operate.

Health and Wellness

We are committed to providing our employees with competitive and comprehensive benefits packages. Our benefits packages provide a balance of protection along with the flexibility to meet the individual health and wellness needs of our employees.

Available Information

We file electronically with the U.S. Securities and Exchange Commission ("SEC"), our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended ("Exchange Act") can be accessed on our Investor Relations website at www.investor.enphase.com. Alternatively, you may access these reports at the SEC's website at www.sec.gov. We make available, free of charge, copies of these reports as soon as reasonably practicable after filing these reports with the SEC or otherwise furnishing it to the SEC. The contents of our websites are not incorporated by reference into this Annual Report on Form 10-K or in any other report or document we file with the SEC, and any references to our websites are intended to be inactive textual references only.

Item 1A. Risk Factors

We have identified the following risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. The risks described below are not the only ones we face. Additional risks not presently known to us or that we currently believe are not material may also significantly impair our business operations. Our business could be harmed by any of these risks. The trading price of our common stock could decline due to any of these risks, and you may lose all or part of your investment. In assessing these risks, you should also refer to the other information contained in this Annual Report on Form 10-K, including our consolidated financial statements and related notes. See also "Forward-Looking Statements" in the forepart of this Annual Report on Form 10-K.

Risks Related to our Business, Operations and Our Industry

If demand for solar energy solutions does not grow or grows at a slower rate than we anticipate, including as a result of the ongoing COVID-19 pandemic, our business will suffer.

Our microinverter and AC Battery storage systems are utilized in solar PV installations, which provide on-site distributed power generation. As a result, our future success depends on continued demand for solar energy solutions and the ability of solar equipment vendors to meet this demand. The solar industry is an evolving industry that has experienced substantial changes in recent years, and we cannot be certain that consumers and businesses will adopt solar PV systems as an alternative energy source at levels sufficient to continue to grow our business. Traditional electricity distribution is based on the regulated industry model under which businesses and consumers obtain their electricity from a government regulated utility. For alternative methods of distributed power to succeed, businesses and consumers must adopt new purchasing practices. The viability and continued growth in demand for solar energy solutions, and in turn, our products, may be impacted by many factors outside of our control, including:

- market acceptance of solar PV systems based on our product platform;
- cost competitiveness, reliability and performance of solar PV systems compared to conventional and non-solar renewable energy sources and products;
- availability and amount of government subsidies and incentives to support the development and deployment of solar energy solutions;
- the extent to which the electric power industry and broader energy industries are deregulated to permit broader adoption of solar electricity generation;
- the cost and availability of key raw materials and components used in the production of solar PV systems;
- prices of traditional utility-provided energy sources;
- levels of investment by end-users of solar energy products, which tend to decrease when economic growth slows; and
- the emergence, continuance or success of, or increased government support for, other alternative energy generation technologies and products.

If demand for solar energy solutions does not grow, demand for our customers' products as well as demand for our products will decrease, which would have an adverse impact on our ability to increase our revenue and grow our business.

Short-term demand and supply imbalances, especially for solar module technology, have recently caused prices for solar technology solutions to decline rapidly. Furthermore, competition in the solar industry has increased due to the emergence of lower-cost manufacturers along the entire solar value chain causing further price declines, excess inventory and oversupply. These market disruptions may continue to occur and may increase pressure to reduce prices, which could adversely affect our business and financial results.

Further, our success depends on continued demand for solar energy solutions and the ability of solar equipment vendors to meet this demand. As a result of the ongoing COVID-19 pandemic, the demand for solar energy solutions decreased in the second and third quarters of 2020 compared to the same quarters of the prior year. The demand for solar energy solutions may continue to decrease, or at least not continue its growth relative to pre-pandemic periods and recent years, as a result of government orders associated with the COVID-19 pandemic, due to adverse worldwide economic and market conditions, or other factors. If demand for solar energy solutions decreases or does not grow, demand for our customers' products as well as demand for our products will decrease, which would have an adverse impact on our ability to increase our revenue and grow our business.

The rapidly changing solar industry makes it difficult to evaluate our current business and future prospects.

The solar energy industry is one of the fastest growing forms of renewable energy and is undergoing and subject to rapid change. The solar energy industry will take several more years to develop and further mature, which makes it difficult to evaluate our current business, and we cannot be certain that the market will grow to the size or at the rate we expect. We have encountered and will continue to encounter risks and difficulties frequently experienced by growing companies in rapidly changing industries, including increased expenses as we continue to grow our business. If we do not manage these risks and overcome these difficulties successfully, our business will suffer.

Since we began commercial shipments of our products, our revenue, gross profit and results of operations have varied and are likely to continue to vary from quarter to quarter due to a number of factors, many of which are not within our control. It is difficult for us to accurately forecast our future revenue and gross profit and plan expenses accordingly and, therefore, it is difficult for us to predict our future results of operations.

We depend on sole-source and limited-source suppliers for key components and products. If we are unable to source these components and products on a timely basis, we will not be able to deliver our products to our customers.

We depend on sole-source and limited-source suppliers for key components of our products, such as our ASICs and lithium-ion batteries. Any of the sole-source and limited-source suppliers upon whom we rely could experience quality and reliability issues, stop producing our components, cease operations, or be acquired by, or enter into exclusive arrangements with, our competitors. We generally do not have long-term supply agreements with our suppliers, and our purchase volumes may currently be too low for us to be considered a priority customer by most of our suppliers. As a result, most of these suppliers could stop selling to us at commercially reasonable prices, or at all. Any such quality or reliability issue, or interruption or delay may force us to seek similar components or products from alternative sources, which may not be available on commercially reasonable terms, or at all. Switching suppliers may require that we redesign our products to accommodate new components, and may potentially require us to re-qualify our products, which would be costly and time-consuming. Any interruption in the quality or supply of sole-source or limited-source components for our products would adversely affect our ability to meet scheduled product deliveries to our customers and could result in lost revenue or higher expenses and would harm our business.

Our business has been affected by, is currently being adversely affected and could be materially and adversely affected in the future by the current impacts and evolving effects of the ongoing COVID-19 pandemic. The COVID-19 pandemic may continue to, and other actual or threatened epidemics, pandemics, outbreaks, or public health crises may in the future, adversely affect our and our customers' results of operations and financial condition, our supply chain and our business.

Our business has been affected by, is currently being adversely affected and could be materially and adversely affected in the future by the evolving effects of the ongoing COVID-19 pandemic. The ongoing COVID-19 pandemic also continues to have worldwide impact resulting in a global slowdown of economic activity which has decreased demand for a broad variety of goods and services, including from our customers, while also disrupting sales channels and marketing activities. As a result, the ongoing COVID-19 pandemic has had a negative impact on our sales and our results of operations. We are closely evaluating the impacts of the evolving effects of the COVID-19 pandemic on our ability, and the ability of our third-party partners to effectively market, maintain supply, sell and distribute our products. Further, even though vaccine programs have recently been initiated, there is no current indication whether these vaccine programs will be effective. We are currently unable to predict how long the COVID-19 pandemic will continue, whether vaccinations or other actions will contain the pandemic, and the extent and duration of the pandemic's continued impact on our current or future performance.

Among other impacts, the COVID-19 pandemic and associated governmental orders, including the various "shelter-in-place" orders, slowed the demand for our products, and we expect the pandemic will continue to reduce demand for our products and impede or cause temporary and long-term disruptions in solar installations, our supply chains and/or delays in the delivery of our products. The most significant near-term impacts of COVID-19 on our financial performance have been a decline in sales orders as future residential and commercial system owners are canceling sales meetings with system installation professionals or postponing system installations. As the purchase of new solar energy management solutions declines as part of the impact of the COVID-19 pandemic on consumer spending, many businesses through which we distribute our products are working at limited operational capacity.

Moreover, the COVID-19 pandemic and associated governmental orders could require or cause employees to continue to "shelter-in-place" for longer periods of time, which could adversely affect our ability to adequately staff and manage our businesses. While our field-based personnel are engaging in limited in-person interactions, they are primarily using electronic communication, such as emails, phone calls and video conferences. We expect the different quality of electronic interactions as compared with in-person interactions, as well as the reduced quantity of interactions during the COVID-19 pandemic, to reduce the effectiveness of our sales personnel, as well as those of our partners, which have and could negatively affect our sales and future revenue. Further, such risks could also adversely affect our customers' financial condition, resulting in reduced spending for our solar products.

The global spread of COVID-19 and the efforts to control it have adversely affected, and could continue to adversely affect, global supply chains. Any disruptions to our suppliers and manufacturers by, for example, worker absenteeism, quarantines, office and factory closures, disruptions to ports and other shipping infrastructure, or other travel or health-related restrictions have adversely affected and could continue to have an adverse impact on our business and operations. For example, the general market for the semiconductors has been disrupted by the

COVID-19 pandemic, and that disruption has impacted and may in future further impact the component supply for our IQ7 and IQ8 products. As a result of these supply chain disruptions, we are working to expand our supplier base, but there can be no assurance that these efforts will be successful or that supply chain disruptions will not continue, or worsen. Limits on manufacturing availability or capacity, or delays in production or delivery of components, due to COVID-19-related restrictions could delay or inhibit our ability to obtain supply of components and produce finished products and offerings, which could adversely affect our business, operations and customer relationships.

Our liquidity also may be negatively impacted if sales decline significantly for an extended period due to the impact of the ongoing COVID-19 pandemic. Further, the extent to which the ongoing COVID-19 pandemic and our precautionary measures in response thereto impact our business and liquidity will depend on future developments, which are uncertain and cannot be precisely predicted at this time.

The ultimate extent of the impact of the COVID-19 pandemic on our business, financial condition and results of operations will depend on future developments, including those that are highly uncertain and cannot be predicted with confidence at this time, including the ultimate duration of the pandemic, travel restrictions, quarantines, social distancing and business closure requirements in the U.S. and other countries, and the effectiveness of actions taken globally to contain and treat the disease. It is possible that additional legislation or governmental action will be taken in response to the evolving effects of the COVID-19 pandemic. We cannot assure you as to the ultimate content, timing, or effect of changes, nor is it possible at this time to estimate the impact of any such potential legislation or governmental action; however, such changes or the ultimate impact of changes could negatively affect our revenue or sales of our current and or potential future products. Moreover, the long-term effects of the COVID-19 pandemic remain unknown, and it is possible that following the pandemic in-person interactions will remain limited, which would negatively impact our sales team and our future revenues. These and other potential impacts of the COVID-19 pandemic discussed elsewhere in this “Risk Factors” section, as well as any future and unforeseen risks related to the pandemic not yet contemplated, could materially and adversely affect our business, financial condition and results of operations. To the extent the evolving effects of the COVID-19 pandemic adversely affect our business, financial condition and results of operations, they may also have the effect of heightening many of the other risks and uncertainties described elsewhere in this “Risk Factors” section.

It is also possible that future global pandemics could also occur and also materially and adversely affect our business, financial condition and results of operations.

We depend upon a sole-source and small number of outside contract manufacturers, and our business and operations could be disrupted if we encounter problems with these contract manufacturers.

We do not have internal manufacturing capabilities and rely upon a small number of contract manufacturers to build our products. In particular, we outsource the manufacturing of our products to manufacturing partners. Flex Ltd. and affiliates (“Flex”), and Salcomp Manufacturing India Pvt. Ltd. (“Salcomp”) assemble and test our microinverter, AC Battery storage systems and Envoy products. Prices for such services are agreed to by the parties on a quarterly basis, and we are obligated to purchase manufactured products and raw materials that cannot be resold upon the termination of the related agreements. As of December 31, 2020 our related purchase obligations (including amounts related to component inventory procured by our primary contract manufacturers on our behalf) were approximately $162.2 million. The timing of purchases in future periods could differ materially from our estimates due to fluctuations in demand requirements related to varying sales levels as well as changes in economic conditions.

Flex also provides receiving, kitting, storage, transportation, inventory visibility and other value-added logistics services at locations managed by Flex. Hong Kong Sinbon Industrial Limited manufactures our custom AC cables. During the fourth quarter of 2020, we qualified Amperex Technology Limited in addition to A123 Systems LLC as our lithium-ion batteries suppliers to help increase our available capacity. In addition, we rely on several unaffiliated companies to supply certain components used in the fabrication of our products.

Our reliance on a small number of contract manufacturers makes us vulnerable to possible capacity constraints and reduced control over component availability, delivery schedules, manufacturing yields and costs. We do not have long-term supply contracts with our contract manufacturing partners. Consequently, these manufacturers are not obligated to supply products to us for any period, in any specified quantity or at any certain price. If any of these suppliers reduce or eliminate the supply of the components to us in the future, our revenues, business, financial condition and results of operations would be adversely impacted.

Further, the revenues that our contract manufacturers generate from our orders may represent a relatively small percentage of their overall revenues. As a result, fulfilling our orders may not be considered a priority in the event of constrained ability to fulfill all of their customer obligations in a timely manner. In addition, the facilities in which the vast majority of our products are manufactured are located outside of the U.S. We believe that the location of these facilities outside of the U.S. increases supply risk, including the risk of supply interruptions or reductions in manufacturing quality or controls.

If any of our contract manufacturers were unable or unwilling to manufacture our products in required volumes and at high quality levels or renew existing terms under supply agreements, we would have to identify, qualify and select acceptable alternative contract manufacturers, which may not be available to us on favorable terms, if at all. For example, we have experienced a volume shortage of components and may experience in future as well. An alternative contract manufacturer may not be available to us when needed or may not be in a position to satisfy our quality or production requirements on commercially reasonable terms. Any significant interruption in manufacturing would require us to reduce our supply of products to our customers, which in turn would reduce our revenues, harm our relationships with our customers and cause us to forgo potential revenue opportunities.

If we or our contract manufacturers are unable to obtain raw materials in a timely manner or if the price of raw materials increases significantly, production time and product costs could increase, which may adversely affect our business.

The manufacturing and packaging processes used by our contract manufacturers depend on raw materials such as copper, aluminum, silicon and petroleum-based products. From time to time, suppliers may extend lead times, limit supplies or increase prices due to capacity constraints or other factors. Certain of our suppliers have the ability to pass along to us directly or through our contract manufacturers any increases in the price of raw materials. If the prices of these raw materials rise significantly, we may be unable to pass on the increased cost to our customers. While we may from time to time enter into hedging transactions to reduce our exposure to wide fluctuations in the cost of raw materials, the availability and effectiveness of these hedging transactions may be limited. Due to all these factors, our results of operations could be adversely affected if we or our contract manufacturers are unable to obtain adequate supplies of raw materials in a timely manner or at reasonable cost. In addition, from time to time, we or our contract manufacturers may need to reject raw materials that do not meet our specifications, resulting in potential delays or declines in output. Furthermore, problems with our raw materials may give rise to compatibility or performance issues in our products, which could lead to an increase in product warranty claims. Errors or defects may arise from raw materials supplied by third parties that are beyond our detection or control, which could lead to additional product warranty claims that may adversely affect our business and results of operations.

Manufacturing problems could result in delays in product shipments, which would adversely affect our revenue, competitive position and reputation.

We have in the past and may in the future experience delays, disruptions or quality control problems in our manufacturing operations. Our product development, manufacturing and testing processes are complex and require significant technological and production process expertise. Such processes involve a number of precise steps from design to production. Any change in our processes could cause one or more production errors, requiring a temporary suspension or delay in our production line until the errors can be researched, identified and properly addressed and rectified. This may occur particularly as we introduce new products, modify our engineering and production techniques, and expand our capacity. In addition, our failure to maintain appropriate quality assurance processes could result in increased product failures, loss of customers, increased production costs and delays. Any of these developments could have a material adverse effect on our business, financial condition, and results of operations.

A disruption could also occur in one of our contract manufacturers' facilities due to any number of reasons, such as equipment failure, contaminated materials, COVID-19 pandemic impacts or process deviations, which could adversely impact manufacturing yields or delay product shipments. As a result, we could incur additional costs that would adversely affect our gross profit, and product shipments to our customers could be delayed beyond the schedules requested, which would negatively affect our revenue, competitive position and reputation.

Additionally, manufacturing yields depend on a number of factors, including the stability and manufacturability of the product design, manufacturing improvements gained over cumulative production volumes, and the quality and consistency of component parts. Capacity constraints, raw materials shortages, logistics issues, labor shortages, and changes in customer requirements, manufacturing facilities or processes have historically caused, and may in the future cause, reduced manufacturing yields, negatively impacting the gross profit on, and our production capacity for, those products. Moreover, an increase in the rejection and rework rate of products during the quality control process before, during or after manufacture would result in our experiencing lower yields, gross profit and production capacity.

Component shortages have required us and may continue to require us to incur expedited shipping costs to meet delivery schedules, which impacts our revenue and gross profit.

The risks of these types of manufacturing problems are further increased during the introduction of new product lines, which has from time to time caused, and may in the future cause, temporary suspension of product lines while problems are addressed or corrected. Since our business is substantially dependent on a limited number of product lines, any prolonged or substantial suspension of an individual product line could result in a material adverse effect on our revenue, gross profit, competitive position, and distributor and customer relationships.

We rely primarily on distributors, installers and providers of solar financing to assist in selling our products to customers, and the failure of these customers to perform at the expected level, or at all, would have an adverse effect on our business, financial condition and results of our operations.

We sell our solutions primarily through distributors, as well as through direct sales to solar equipment installers and developers of third-party solar finance offerings. We do not have exclusive arrangements with these third parties. As a result, many of our customers also use or market and sell products from our competitors, which may reduce our sales. Our customers may generally terminate their relationships with us at any time, or with short notice. Our customers may fail to devote resources necessary to sell our products at the prices, in the volumes and within the time frames that we expect, or may focus their marketing and sales efforts on products of our competitors. In addition, participants in the solar industry are becoming increasingly focused on vertical integration of the solar financing and installation process, which may lead to an overall reduction in the number of potential parties who may purchase and install our products.

In addition, while we provide our distributors and installers with training and other programs, including accreditations and certifications, these programs may not be effective or utilized consistently. In addition, new partners may require extensive training and may take significant time and resources to achieve productivity. Our partners may subject us to lawsuits, potential liability, and reputational harm if, for example, any of our partners misrepresent the functionality of our platform or products to customers, fail to perform services to our customers' expectations, or violate laws or our policies. In addition, our partners may utilize our platform to develop products and services that could potentially compete with products and services that we offer currently or in the future. Concerns over competitive matters or intellectual property ownership could constrain the growth and development of these partnerships or result in the termination of one or more partnerships. If we fail to effectively manage and grow our network of partners, or properly monitor the quality and efficacy of their service delivery, our ability to sell our products and efficiently provide our services may be impacted, and our operating results may be harmed.

Our future performance depends on our ability to effectively manage our relationships with our existing customers, as well as to attract additional customers that will be able to market and support our products effectively, especially in markets in which we have not previously distributed our products. Termination of agreements with current customers, failure by customers to perform as expected, or failure by us to cultivate new customer relationships, could hinder our ability to expand our operations and harm our revenue and operating results.

The solar industry is highly competitive, and we expect to face increased competition as new and existing competitors introduce products or develop alternative technologies, which could negatively impact our business, financial condition and results of operations.

We compete primarily against central and string inverter manufacturers, as well as against new solutions and emerging technologies that directly compete with our business. A number of companies have developed or are developing microinverters and other products that will compete directly with our solutions in the module-level power electronics market.

Competitors in the inverter market include, among others, SolarEdge Technologies, Inc., Fronius International GmbH, SMA Solar Technology AG, AP Systems, Generac, Tesla, Inc., Huawei Technologies Co. Ltd., Delta, Ginglong, Sungrow, Solax and other companies offering string inverters. Other existing or emerging companies may also begin offering alternative microinverter, DC-to-DC optimizer, energy storage, monitoring and other solutions that compete with our products. Competitors in the storage market include Tesla, LG Chem, Sonnen, Generac, Panasonic, BYD, E3/DC, Senec, Schneider, Goal Zero, Simpliphi and other producers of battery cells and integrated storage systems.

Several of our existing and potential competitors are significantly larger than we are and may have greater financial, marketing, distribution, and customer support resources, and may have significantly broader brand recognition, especially in certain markets. In addition, some of our competitors have more resources and experience in developing or acquiring new products and technologies and creating market awareness for these offerings. Further, certain competitors may be able to develop new products more quickly than we can and may be able to develop products that are more reliable or that provide more functionality than ours. In addition, some of our competitors have the financial resources to offer competitive products at aggressive or below-market pricing levels, which could cause us to lose sales or market share or require us to lower prices of our products in order to compete effectively. Suppliers of solar products, particularly solar modules, have experienced eroding prices over the last several years and as a result many have faced margin compression and declining revenues. If we have to reduce our prices, or if we are unable to offset any future reductions in our average selling prices by increasing our sales volume, reducing our costs and expenses or introducing new products, our revenues and gross profit would suffer.

Significant developments in alternative technologies, such as advances in other forms of distributed solar PV power generation, storage solutions such as batteries, the widespread use or adoption of fuel cells for residential or commercial properties or improvements in other forms of centralized power production may have a material adverse effect on our business and prospects. Any failure by us to adopt new or enhanced technologies or processes, or to react to changes in existing technologies, could result in product obsolescence, the loss of competitiveness of our products, decreased revenue and a loss of market share to competitors.

We also may face competition from some of our customers or potential customers who evaluate our capabilities against the merits of manufacturing products internally. Other solar module manufacturers could also develop or acquire competing inverter technology or attempt to develop components that directly perform DC-to-AC conversion in the module itself. Due to the fact that such customers may not seek to make a profit directly from the manufacture of these products, they may have the ability to manufacture competitive products at a lower cost than we would charge such customers. As a result, these customers or potential customers may purchase fewer of our systems or sell products that compete with our systems, which would negatively impact our revenue and gross profit.

The loss of, or events affecting, one of our major customers could reduce our sales and have an adverse effect on our business, financial condition and results of operations.

For the fiscal year ended December 31, 2020, one customer accounted for approximately 29% of total net revenues. Further, as of December 31, 2020, amounts due from one customer represented approximately 36% of the total accounts receivable balance, and amounts due from three customers represented 34%, 14% and 11% of the total accounts receivable balance as of December 31, 2019. Our customers' decisions to purchase our products are influenced by a number of factors outside of our control, including retail energy prices and government regulation and incentives, among others. Although we have agreements with some of our largest customers, these agreements generally do not have long-term purchase commitments and are generally terminable by either party after a relatively short notice period. In addition, these customers may decide to no longer use, or to reduce the use of, our products and services for other reasons that may be out of our control. We may also be affected by events impacting our large customers that result in their decreasing their orders with us or impairing their ability to pay for our products. The loss of, or events affecting, one or more of our large customers have had from time to time, and could in the future have a material adverse effect on our business, financial condition and results of operations.

Our microinverter systems, including our storage solution, integrated AC Module, eighth-generation IQ microinverters and Ensemble technology, may not achieve broader market acceptance, which would prevent us from increasing our revenue and market share.

If we fail to achieve broader market acceptance of our products, including international acceptance of our eighth-generation IQ microinverters and Ensemble technology announced in the fourth quarter of 2019 and for which product shipments commenced during the second quarter of 2020, there would be an adverse impact on our ability to increase our revenue, gain market share and achieve and sustain profitability. Our ability to achieve broader market acceptance for our products will be impacted by a number of factors, including:

- our ability to produce PV systems that compete favorably against other solutions on the basis of price, quality, reliability and performance;
- our ability to timely introduce and complete new designs and timely qualify and certify our products;
- whether installers, system owners and solar financing providers will continue to adopt our systems, which have a relatively limited history with respect to reliability and performance;
- whether installers, system owners and solar financing providers will adopt our storage solution, which is a relatively new technology with a limited history with respect to reliability and performance;
- the ability of prospective system owners to obtain long-term financing for solar PV installations based on our product platform on acceptable terms or at all;
- our ability to develop products that comply with local standards and regulatory requirements, as well as potential in-country manufacturing requirements; and
- our ability to develop and maintain successful relationships with our customers and suppliers.

In addition, our ability to achieve increased market share will depend on our ability to increase sales to established solar installers, who have traditionally sold central or string inverters, or who currently sell DC-to-DC optimizers. These installers often have made substantial investments in design, installation resources and training in traditional central or string inverter systems or DC optimizers, which may create challenges for us to achieve their adoption of our solutions.

Our success in marketing and selling "AC module" versions of our microinverter system depends in part upon our ability to continue to work closely with leading solar module manufacturers.

We continue to work on variants of our microinverter systems that enable direct attachment of a microinverter to solar modules. The market success of such "AC Module" solutions will depend in part on our ability to continue to work closely with SunPower and other solar module manufacturers to design microinverters that are compatible with and can be attached directly to solar modules. We may not be able to encourage solar module manufacturers to work with us on the development of such compatible solutions for a variety of reasons, including differences in marketing or selling strategy, competitive considerations, lack of competitive pricing, and technological compatibility. In addition, our ability to form effective partnerships with solar module manufacturers may be adversely affected by the substantial challenges faced by many of these manufacturers due to declining prices and revenues from sales of solar modules and the tariffs in the U.S.

Our recent and planned expansion into existing and new markets could subject us to additional business, financial and competitive risks.

We currently offer solar microinverter systems targeting the residential and commercial markets throughout the world, and we intend to expand into other international markets. Our success in new geographic and product markets will depend on a number of factors, such as:

- acceptance of microinverters in markets in which they have not traditionally been used;
- our ability to compete in new product markets to which we are not accustomed;
- our ability to manage manufacturing capacity and production;
- willingness of our potential customers to incur a higher upfront capital investment than may be required for competing solutions;
- timely qualification and certification of new products;

- our ability to reduce production costs in order to price our products competitively;
- availability of government subsidies and economic incentives for solar energy solutions;
- accurate forecasting and effective management of inventory levels in line with anticipated product demand;
- our customer service capabilities and responsiveness; and
- timely hiring of the skilled employees and efficient execution of our project plan.

Further, new geographic markets and larger commercial and utility-scale installation markets have different characteristics from the markets in which we currently sell products, and our success will depend on our ability to properly address these differences. These differences may include:

- differing regulatory requirements, including tax laws, trade laws, labor, safety, local content, recycling and consumer protection regulations, tariffs, export quotas, customs duties or other trade restrictions;
- limited or unfavorable intellectual property protection;
- risk of change in international political or economic conditions;
- restrictions on the repatriation of earnings;
- fluctuations in the value of foreign currencies and interest rates;
- difficulties and increased expenses in complying with a variety of U.S. and foreign laws, regulations and trade standards, including the Foreign Corrupt Practices Act and UK Bribery Act;
- potentially longer sales cycles;
- generally longer payment cycles and greater difficulty in collecting accounts receivable;
- higher volume requirements;
- increased customer concentrations;
- warranty expectations and product return policies; and
- cost, performance and compatibility requirements.

Failure to address these new markets successfully, to generate sufficient revenue from these markets to offset associated research and development, marketing and manufacturing costs, or to otherwise effectively anticipate and manage the risks and challenges associated with our potential expansion into new product and geographic markets, could adversely affect our revenues and our ability to achieve or sustain profitability.

We may fail to capture customers in the new product and geographic markets that we are pursuing.

We are pursuing opportunities in energy management and energy storage which are highly competitive markets. We have made investments in our infrastructure, increased our operating costs and forgone other business opportunities in order to seek opportunities in these areas and will continue to do so. Any new product is subject to certain risks, including component sourcing, strategic partner selection and execution, customer acceptance, competition, product differentiation, market timing, challenges relating to economies of scale in component sourcing and the ability to attract and retain qualified personnel. There can be no assurance that we will be able to develop and grow these or any other new concepts to a point where they will become profitable or generate positive cash flow. If we fail to execute on our plan with respect to new product introductions, these new potential business segments fail to translate into revenue in the quantities or timeline projected, thus, having a materially adverse impact on our revenue, operating results and financial stability.

In the fourth quarter of 2019, we announced our eight-generation IQ microinverters and Ensemble technology. We started production shipments of Ensemble technology to customers in North America during the second quarter of 2020. Our new products are complex and require significant preparation, precautionary safety measures, time-consuming string calculations, extensive design expertise and specialized installation equipment, training and knowledge. Together, these factors significantly increase complexity and cost of installation and limit overall productivity for the installer. Our installers may not have sufficient resources or expertise necessary to sell our products at the prices, in the volumes and within the time frames that we expect, which could hinder our ability to expand our operations and harm our revenue and operating results.

If we fail to retain our key personnel or if we fail to attract additional qualified personnel, we may not be able to achieve our anticipated level of growth and our business could suffer.

Our future success and ability to implement our business strategy depends, in part, on our ability to attract and retain key personnel, and on the continued contributions of members of our senior management team and key personnel in areas such as engineering, marketing, and sales, any of whom would be difficult to replace. For example, we are highly dependent on our president and chief executive officer, Badrinarayanan Kothandaraman. Mr. Kothandaraman possesses technical knowledge of our business, operations and strategy, and he has substantial experience and contacts that help us implement our goals, strategy and plan. If we lose his services or if he decides to join a competitor or otherwise compete directly or indirectly with us, our business, operating results and financial condition could be materially harmed.

All of our employees, including our senior management, are free to terminate their employment relationships with us at any time. Competition for highly skilled executives and employees in the technology industry is intense, and our competitors have targeted individuals in our organization that have desired skills and experience. If we are not able to continue to attract, train and retain our leadership team and our qualified employees necessary for our business, the progress of our product development programs could be hindered, and we could be materially adversely affected. To help attract, retain and motivate our executives and qualified employees, we use stock-based incentive awards, including restricted stock units. If the value of such stock awards does not appreciate as measured by the performance of the price of our common stock, or if our share-based compensation otherwise ceases to be viewed as a valuable benefit, our ability to attract, retain and motivate our executives and employees could be weakened, which could harm our business and results of operations. Also, if the value of our stock awards increases substantially, this could potentially create substantial personal wealth for our executives and employees and affect our ability to retain our personnel. In addition, any future restructuring plans may adversely impact our ability to attract and retain key employees.

Additionally, our ability to attract qualified personnel, including senior management and key technical personnel, is critical to the execution of our growth strategy. Competition for qualified senior management personnel and highly skilled individuals with technical expertise is extremely intense, and we face challenges identifying, hiring, and retaining qualified personnel in all areas of our business. In addition, integrating new employees into our team could prove disruptive to our operations, require substantial resources and management attention, and ultimately prove unsuccessful. Our failure to attract and retain qualified senior management and other key technical personnel could limit or delay our strategic efforts, which could have a material adverse effect on our business, financial condition, results of operations, and prospects.

Any failure by management to properly manage growth could have a material adverse effect on our business, operating results, and financial condition.

Our business has grown rapidly, and if our business develops as currently expected, we anticipate that we will continue to grow rapidly in the near future. Our expected rapid growth could place significant demands on our management, operations, systems, accounting, internal controls and financial resources, and it may also negatively impact our ability to retain key personnel. If we experience difficulties in any of these or other areas, we may not be able to expand our business successfully or effectively manage our growth. Any failure by management to manage our growth and to respond to changes in our business could have a material adverse effect on our business, financial condition and results of operations.

If we are unsuccessful in continuing to expand our direct-to-consumer sales channel by driving purchases through our website, our business and results of operation could be harmed.

We are subject to general business regulations and laws, as well as federal, state, foreign and provincial regulations and laws specifically governing the internet and e-commerce. Existing and future laws and regulations may impede the growth of the use of the internet, availability of economic broadband access, or other online services, and increase the cost of providing our digital delivery of content and services. These regulations and laws may cover taxation, tariffs, user privacy, data protection, pricing, content, copyrights, distribution, electronic contracts and other communications, consumer protection, broadband internet access and the characteristics and quality of services. It is not clear how existing laws governing issues such as property ownership, sales, use and other taxes, libel and personal privacy apply to the internet and e-commerce. Unfavorable resolution of these issues may harm our business and results of operations.

Although we primarily sell our solutions and products directly to solar distributors, who resell to installers and integrators, who then in turn integrate our products into complete solar PV installations for residential and commercial system owners, we have recently invested significant resources in our direct-to-consumer sales channel through our website, and our future growth relies, in part, on our ability to attract consumers through this channel. Expanding our direct-to-consumer sales model will require significant expenditures in marketing, software development and infrastructure. Further, the success of direct-to-consumer sales through our website is also subject to general business regulations and laws, as well as federal, state, foreign and provincial regulations and laws specifically governing the internet and e-commerce. These regulations and laws may cover taxation, tariffs, privacy, data protection, pricing, distribution, electronic contracts and other communications, consumer protection and intellectual property. These laws and regulations can be complex, difficult to interpret and may change over time. Continued regulatory limitations and other obstacles interfering with our ability to sell our products directly to consumers could have a negative and material impact our business, prospects, financial condition and results of operations.

Further, the expansion of our direct-to-consumer channel could alienate some of our existing partners and cause a reduction in sales from these partners. Our existing partners may perceive themselves to be at a disadvantage based on the direct-to-consumer sales offered through our website. Due to these and other factors, conflicts in our sales channels could arise and cause our existing partners to divert resources away from the promotion and sale of our products. If we are unable to successfully continue to drive traffic to, and increase sales through, our website, our business and results of operations could be harmed.

Risks Related to our Intellectual Property and Technology

We could be subject to breaches of our information technology systems, which could cause significant reputational, legal and financial damages.

Like many companies, we use and store a wide variety of confidential and proprietary information relating to our business. The secure maintenance of this information is critical to our business and reputation. Despite our implementation of security measures, our systems are vulnerable to damages from computer viruses, computer denial-of-service attacks, worms, and other malicious software programs or other attacks, covert introduction of malware to computers and networks, unauthorized access, including impersonation of unauthorized users, efforts to discover and exploit any security vulnerabilities or securities weaknesses, and other similar disruptions. These types of attacks have increased, in general, as more businesses implement remote working environments. Although we make significant efforts to maintain the security and integrity of our information technology and related systems, and have implemented measures to manage the risk of a security breach or disruption, there can be no assurance that our security efforts and measures will be effective, or that attempted security breaches or disruptions would not be successful or damaging.

The techniques used in attempted cyber-attacks and intrusions are sophisticated and constantly evolving, and may be difficult to detect for long periods of time. We may be unable to anticipate these techniques or implement adequate preventative measures. Although to date we have not experienced any material breaches of our systems that could have material adverse effect on our business, attacks and intrusions on our systems will continue and we may experience a breach of our systems that compromises sensitive company information or customer data. In addition, hardware, software, or applications we develop or procure from third parties may contain defects in design or manufacture or other problems that could unexpectedly compromise information security. If we experience a significant data security breach, we could be exposed to reputational damage and significant costs, including to rebuild our systems, modify our products and services, defend litigation, respond to government enforcement actions, pay damages or take other remedial steps, any of which could adversely affect our business, results of operations, and financial condition. In addition, we may be required to incur significant costs to protect against damage caused by these disruptions or security breaches in the future.

We may also share information with contractors and third-party providers to conduct our business. Although such contractors and third-party providers typically implement encryption and authentication technologies to secure the transmission and storage of data, those third-party providers may experience a significant data security breach, which may also detrimentally affect our business, results of operations, and financial condition.

The software we use in providing system configuration recommendations or potential energy savings estimates to customers relies in part on third party information that may not be accurate or up-to-date; this may therefore generate inaccurate recommendations or estimates, resulting in a loss of reputation and customer confidence.

We provide our customers online tools to help them determine proper system sizing and configurations, estimates of bill savings, and potential revenues resulting from executing a specific curtailment strategy. These estimates are in turn based on a number of factors such as customer tariff structures, estimated wholesale electricity prices and estimates of the reduction in electricity usage as a result of a curtailment activity. If the estimates we provide prove to be significantly different from actual payments or savings received by our customers, it may result in the loss of reputation and/or customer confidence.

We are subject to stringent privacy laws, information security policies and contractual obligations governing the use, processing and transfer of personal information and 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 certain personal information of our customers, and the end-users of our customers' solar PV systems, including names, addresses, e-mail addresses, credit information and energy production statistics. We also store and use personal information of our employees. We take steps to protect the security, integrity and confidentiality of the personal information we collect, store and transmit, but there is no guarantee that inadvertent or unauthorized use or disclosure will not occur or that third parties will not gain unauthorized access to this information despite our efforts. 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 and our suppliers or vendors may be unable to anticipate these techniques or to implement adequate preventative or mitigation measures.

We are subject to a variety of local, state, national and international laws, directives and regulations that apply to the collection, use, retention, protection, disclosure, transfer and other processing of personal data in the different jurisdictions in which we operate, including comprehensive regulatory systems in the U.S. and Europe. California enacted the California Consumer Privacy Act ("CCPA), which creates individual privacy rights for California consumers and increases the privacy and security obligations of entities handling certain personal data. The CCPA went into effect on January 1, 2020, and became enforceable by the California Attorney General on July 1, 2020. The CCPA has been amended from time to time, and, further a new privacy law, the California Privacy Rights Act, or CPRA, was approved by California voters in the November 3, 2020 election. Effective starting January 1, 2023, the CPRA will significantly modify the CCPA, including by expanding consumers' rights with respect to certain sensitive personal information. The CPRA also creates a new state agency that will be vested with authority to implement and enforce the CCPA and the CPRA. It remains unclear what, if any, further modifications will be made to the CCPA or CPRA, or how such legislation will be interpreted. Certain other state laws impose similar privacy obligations and all 50 states have laws including obligations to provide notification of security breaches of computer databases that contain personal information to affected individuals, state officers and others.

In May 25, 2018, the European Union ("EU"), implemented the General Data Protection Regulation ("GDPR"), a broad data protection framework that expands the scope of current EU data protection law to non-European Union entities that process, or control the processing of, the personal information of EU subjects.

The GDPR imposes stringent requirements for controllers and processors of personal data, including, for example, more robust disclosures to individuals and a strengthened individual data rights regime, shortened timelines for data breach notifications, limitations on retention of information, increased requirements pertaining to special categories of data, such as health data, and additional obligations when we contract with third-party processors in connection with the processing of the personal data. The GDPR also imposes strict rules on the transfer of personal data out of the EU and the EEA to the United States and other third countries. In July 2020, the Court of Justice of the European Union issued a decision that struck down the EU-U.S. Privacy Shield framework, which provided companies with a mechanism to comply with data protection requirements when transferring personal data from the EU to the United States and additionally called into question the validity of the European Commission's Standard Contractual Clauses, on which U.S. companies rely to transfer personal data from Europe to the United States and elsewhere. If we or our vendors fail to comply with the GDPR and the applicable national data protection laws of the EU or EEA member states, or if regulators assert we have failed to comply with these laws, it may lead to regulatory enforcement actions, which can result in monetary penalties of up to €20,000,000 or up to 4% of the total worldwide annual turnover of the preceding financial year, whichever is higher, and other administrative penalties. Further, following the United Kingdom's withdrawal from the EU and the EEA, and the expiry of the transition period, companies have to comply with both the GDPR and the GDPR as incorporated into the United Kingdom national law, the Data Protection Act of 2018, the latter regime having the ability to separately fine up to the greater of £17.5 million or 4% of global turnover. The relationship between the United Kingdom and the EU in relation to certain aspects of data protection law remains unclear, for example around how data can lawfully be transferred between each jurisdiction, which exposes us to further compliance risk.

Compliance with U.S. and international data protection laws and regulations could cause us to incur substantial costs or require us to change our business practices and compliance procedures in a manner adverse to our business. Our and our collaborators' and contractors' failure to fully comply with GDPR, the California Consumer Privacy Act of 2018 and other laws could lead to significant fines and require onerous corrective action. In addition,

data security breaches experienced by us, our collaborators or contractors could result in the loss of trade secrets or other intellectual property, public disclosure of sensitive commercial data, and the exposure of personally identifiable information (including sensitive personal information) of our employees, customers, collaborators and others. Compliance with these and any other applicable privacy and data security laws and regulations is a rigorous and time-intensive process, and we may be required to put in place additional mechanisms ensuring compliance with the new data protection rules. Furthermore, the laws are not consistent, and compliance with various different requirements may be costly. If we fail to comply with any such laws or regulations, we may face significant fines and penalties that could adversely affect our business, financial condition and results of operations.

Unauthorized use or 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 or vendors by an unauthorized party, or through employee or contractor error, theft or misuse, or otherwise, could harm our business. If any such unauthorized use or disclosure of, or access to, such personal information was 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 foreign, federal, state and local laws and regulations relating to the unauthorized access to, or use or disclosure of, personal information. Finally, any perceived or actual unauthorized access to, or use or disclosure of, such information could harm our reputation, substantially impair our ability to attract and retain customers and have an adverse impact on our business, financial condition and results of operations.

If we fail to protect, or incur significant costs in defending, our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.

Our success depends to a significant degree on our ability to protect our intellectual property and other proprietary rights. We rely on a combination of patent, trademark, copyright, trade secret and unfair competition laws, as well as confidentiality and license agreements and other contractual provisions, to establish and protect our intellectual property and other proprietary rights. We have applied for patent and trademark registrations in the U.S. and in other countries, some of which have been issued. We cannot guarantee that any of our pending applications will be approved or that our existing and future intellectual property rights will be sufficiently broad to protect our proprietary technology, and any failure to obtain such approvals or finding that our intellectual property rights are invalid or unenforceable could force us to, among other things, rebrand or re-design our affected products. In countries where we have not applied for patent protection or where effective intellectual property protection is not available to the same extent as in the U.S., we may be at greater risk that our proprietary rights will be misappropriated, infringed or otherwise violated.

To protect our unregistered intellectual property, including our trade secrets and know-how, we rely in part on trade secret laws and confidentiality and invention assignment agreements with our employees and independent contractors. We also require other third parties who may have access to our proprietary technologies and information to enter into non-disclosure agreements. Such measures, however, provide only limited protection, and we cannot assure that our confidentiality and non-disclosure agreements will prevent unauthorized disclosure or use of our confidential information, especially after our employees or third parties end their employment or engagement with us, or provide us with an adequate remedy in the event of such disclosure. Furthermore, competitors or other third parties may independently discover our trade secrets, copy or reverse engineer our products or portions thereof, or develop similar technology. If we fail to protect our intellectual property and other proprietary rights, or if such intellectual property and proprietary rights are infringed, misappropriated or otherwise violated, our business, results of operations or financial condition could be materially harmed.

In the future, we may need to take legal action to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology. Protecting and enforcing our intellectual property rights and determining their validity and scope could result in significant litigation costs and require significant time and attention from our technical and management personnel, which could significantly harm our business. In addition, we may not prevail in such proceedings. An adverse outcome of any such proceeding may reduce our competitive advantage or otherwise harm our financial condition and our business.

We may be subject to disruptions or failures in information technology systems and network infrastructures that could have a material adverse effect on our business and financial condition.

We rely on the efficient and uninterrupted operation of complex information technology systems and network infrastructures to operate our business. In addition, our Enlighten web-based monitoring service, which our installers and end-user customers use to track and monitor the performance of their solar PV systems, is dependent on cloud-based hosting services, along with the availability of WiFi or mobile data services at end-user premises. Despite testing by us, real or perceived errors, failures or bugs in our customer solutions, software or technology or the technology or software we license from third parties, including open source software, may not be found until our customers use our products. Real or perceived errors, failures or bugs in our products could result in negative publicity, loss of or delay in market acceptance of our products, harm to our brand, weakening of our competitive position or claims by customers for losses sustained by them. A disruption, infiltration or failure of our information technology systems, third-party cloud hosting platforms or end-user data services as a result of software or hardware malfunctions, system implementations or upgrades, computer viruses, cyber-attacks, third-party security breaches, employee/human error, theft or misuse, malfeasance, power disruptions, natural disasters or accidents could cause breaches of data security, failure of our Enlighten service, loss of intellectual property and critical data and the release and misappropriation of sensitive competitive information and partner, customer and employee personal data. We have been and may in the future be subject to fraud attempts from outside parties through our electronic systems (such as “phishing” e-mail communications to our finance, technical or other personnel), which could put us at risk for harm from fraud, theft or other loss if our internal controls do not operate as intended. Any such future events could further harm our competitive position, result in a loss of customer confidence, cause us to incur significant costs to remedy any damages and ultimately materially adversely affect our business and financial condition.

Third parties may assert that we are infringing upon their intellectual property rights, which could divert management’s attention, cause us to incur significant costs and prevent us from selling or using the technology to which such rights relate.

Our competitors and other third parties hold numerous patents related to technology used in our industry, and claims of patent or other intellectual property right infringement or violation have been litigated against our competitors. We may also be subject to such claims and litigation. Regardless of their merit, responding to such claims can be time consuming, divert management’s attention and resources, and may cause us to incur significant expenses. While we believe that our products and technology do not infringe upon any intellectual property rights of third parties, we cannot be certain that we would be successful in defending against any such claims. Furthermore, patent applications in the U.S. and most other countries are confidential for a period of time before being published, so we cannot be certain that we are not infringing third parties’ patent rights or that we were the first to conceive or protect inventions covered by our patents or patent applications. An adverse outcome with respect to any intellectual property claim could invalidate our proprietary rights and force us to do one or more of the following:

- obtain from a third-party claiming infringement a license to sell or use the relevant technology, which may not be available on reasonable terms, or at all;
- stop manufacturing, selling, incorporating or using products that embody the asserted intellectual property;
- pay substantial monetary damages;
- indemnify our customers under some of our customer contracts; or
- expend significant resources to redesign the products that use the infringing technology, or to develop or acquire non-infringing technology.

Any of these actions could result in a substantial reduction in our revenue and could result in losses over an extended period of time.

Our failure to obtain the right to use necessary third-party intellectual property rights on reasonable terms, or our failure to maintain, and comply with the terms and conditions applicable to these rights, could harm our business and prospects.

We have licensed, and in the future we may choose or be required to license, technology or intellectual property from third parties in connection with the development and marketing of our products. We cannot assure you that such licenses will be available to us on commercially reasonable terms, or at all, and our inability to obtain such licenses could require us to substitute technology of lower quality or of greater cost.

Further, such licenses may be non-exclusive, which could result in our competitors gaining access to the same intellectual property. The licensing or acquisition of third party intellectual property rights is a competitive area, and other established companies may pursue strategies to license or acquire third party intellectual property rights that we may consider attractive or necessary. These established companies may have a competitive advantage over us due to their size, capital resources or greater development or commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. We could encounter delays and incur significant costs, in product or service introductions while we attempt to develop alternative products or services, or redesign our products or services, to avoid infringing third party patents or proprietary rights. Failure to obtain any such licenses or to develop a workaround could prevent us from commercializing products or services, and the prohibition of sale or the threat of the prohibition of sale of any of our products or services could materially affect our business and our ability to gain market acceptance for our products or services.

In addition, we incorporate open source software code in our proprietary software. Use of open source software can lead to greater risks than use of third-party commercial software, since open source licensors generally do not provide warranties or controls with respect to origin, functionality or other features of the software. Further, companies that incorporate open source software into their products have, from time to time, faced claims challenging their use of open source software and compliance with open source license terms. As a result, we could be subject to lawsuits by parties claiming ownership of what we believe to be open source software or claiming noncompliance with open source licensing terms. Some open source software licenses require users who distribute open source software as part of their products to publicly disclose all or part of the source code in their software and make any derivative works of the open source code available for limited fees or at no cost. Although we monitor our use of open source software, open source license terms may be ambiguous, and many of the risks associated with the use of open source software cannot be eliminated. If we were found to have inappropriately used open source software, we may be required to release our proprietary source code, re-engineer our software, discontinue the sale of certain products in the event re-engineering cannot be accomplished on a timely basis, or take other remedial action. Furthermore, if we are unable to obtain or maintain licenses from third parties or fail to comply with open source licenses, we may be subject to costly third party claims of intellectual property infringement or ownership of our proprietary source code. There is little legal precedent in this area and any actual or claimed requirement to disclose our proprietary source code or pay damages for breach of contract could harm our business and could help third parties, including our competitors, develop products and services that are similar to or better than ours. Any of the above could harm our business and put us at a competitive disadvantage.

We may not be able to protect and enforce our trademarks and trade names, or build name recognition in our markets of interest thereby harming our competitive position.

The registered or unregistered trademarks or trade names that we own may be challenged, infringed, circumvented, declared generic, lapsed or determined to be infringing on or dilutive of other marks. We may not be able to protect our rights in these trademarks and trade names, which we need in order to build name recognition. In addition, third parties have filed, and may in the future file, for registration of trademarks similar or identical to our trademarks, thereby impeding our ability to build brand identity and possibly leading to market confusion. If they succeed in registering or developing common law rights in such trademarks, and if we are not successful in challenging such rights, we may not be able to use these trademarks to develop brand recognition of our technologies, products or services. In addition, there could be potential trade name or trademark infringement claims brought by owners of other registered trademarks or trademarks that incorporate variations of our registered or unregistered trademarks or trade names. If third parties succeed they succeed in registering such trademarks in the U.S. or other countries, and if we are not successful in challenging such third party rights, we may not be able to use these trademarks to market our products and technologies such countries. If we do not secure registrations for our trademarks, we may encounter more difficulty in enforcing them against third parties than we otherwise would. If we are unable to establish name recognition based on our trademarks and trade names, we may not be able to

compete effectively, which could harm our business, financial condition, results of operations and prospects. And, over the long-term, if we are unable to establish name recognition based on our trademarks, then our marketing abilities may be materially adversely impacted.

Obtaining and maintaining our patent protection depends on compliance with various required procedures, document submissions, fee payments and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.

Periodic maintenance fees, renewal fees, annuity fees and various other governmental fees on patents and/or applications will be due to be paid to the USPTO and various governmental patent agencies outside of the United States at several stages over the lifetime of the patents and/or applications. We have systems in place to remind us to pay these fees, and we engage an outside service and rely on our outside counsel to pay these fees due to non-U.S. patent agencies. The USPTO and various non-U.S. governmental patent agencies require compliance with a number of procedural, documentary, fee payment and other similar provisions during the patent application process. We employ reputable law firms and other professionals to help us comply, and in many cases, an inadvertent lapse can be cured by payment of a late fee or by other means in accordance with the applicable rules. However, there are situations in which non-compliance can result in abandonment or lapse of the patent or patent application, resulting in partial or complete loss of patent rights in the relevant jurisdiction. In such an event, our competitors may be able to enter the market without infringing our patents and this circumstance would have a material adverse effect on our business.

Patent terms may be inadequate to protect our competitive position on our products for an adequate amount of time.

Patents have a limited lifespan. In the United States, if all maintenance fees are timely paid, the natural expiration of a patent is generally 20 years from its earliest U.S. non-provisional filing date. Various extensions may be available, but the life of a patent, and the protection it affords, is limited. Even if patents covering our products are obtained, once the patent life has expired, we may be open to competition from competitive products. If one of our products requires extended development, testing and/or regulatory review, patents protecting such products might expire before or shortly after such products are commercialized. As a result, our owned and licensed patent portfolio may not provide us with sufficient rights to exclude others from commercializing products similar or identical to ours.

Risks related to Legal Proceedings and Regulations

Changes in current laws or regulations or the imposition of new laws or regulations, or new interpretations thereof, in the solar energy sector or international trade, by federal or state agencies in the United States or foreign jurisdictions could impair our ability to compete, and could materially harm our business, financial condition and results of operations.

There has been and will continue to be regulatory uncertainty in the clean energy sector generally and the solar energy sector in particular. Changes in current laws or regulations, or the imposition of new laws and regulations around the world, could materially and adversely affect our business, financial condition and results of operations. In addition, changes in our products or further changes in tariffs, export and import laws and implementing regulations may create delays in the introduction of new products in international markets, prevent our customers from deploying our products internationally or, in some cases, prevent the export or import of our products to certain countries altogether.

For example, several states or territories, including California, Hawaii and Queensland, Australia, have either implemented or are considering implementing new restrictions on incentives or rules regulating the installation of solar power systems with which we may not be able to comply. In the event that we cannot comply with these or other new regulations or implement a solution to such noncompliance as they arise, the total market available for our microinverter products in such states, and our business as a result, may be adversely impacted.

While we are not aware of any other current or proposed export or import regulations that would materially restrict our ability to sell our products in countries where we offer our products for sale, any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by these regulations, could result in decreased use of our products by, or in our decreased ability to export or sell our products to, existing or potential customers with international operations. In such event, our business and results of operations could be adversely affected.

Additionally, if the U.S. takes action to eliminate or reduce laws, regulations and incentives supporting solar energy, such actions may result in a decrease in demand for solar energy in the U.S. and other geographical markets, it would harm our business, financial condition and results of operations.

Changes in the U.S. trade environment, including the recent imposition of import tariffs, could adversely affect the amount or timing of our revenues, results of operations or cash flows.

Escalating trade tensions between the U.S. and China have led to increased tariffs and trade restrictions, including tariffs applicable to certain of our products. For example, on September 24, 2018, the U.S. began assessing 10% tariffs on certain solar products manufactured in China including our microinverter products and related accessories which are manufactured in China. These tariffs increased to 25% in May 2019, and on January 15, 2020, the United States and China entered into an initial trade deal which preserves the bulk of the tariffs imposed in 2018 and maintains a threat of additional sanctions should China breach the terms of the deal.

However, on March 26, 2020, the Office of the U.S. Trade Representative announced certain exclusion requests related to tariffs on Chinese imported microinverter products that fit the dimensions and weight limits within a Section 301 Tariff exclusion (the “Tariff Exclusion”). The Tariff Exclusion applied to covered products exported from China to the United States from September 24, 2018 until August 7, 2020. Accordingly, we sought refunds totaling approximately $38.9 million plus approximately $0.6 million accrued interest on tariffs previously paid from September 24, 2018 to March 31, 2020 for certain microinverters that qualify for the Tariff Exclusion. As of December 31, 2020, we have received $24.8 million of tariff refunds and accrued for the remaining $14.7 million tariff refunds that were approved, however, not yet received on or before December 31, 2020. For the year ended December 31, 2020, we recorded $38.9 million as a reduction to cost of revenues in our consolidated statements of operations as the approved refunds relate to paid tariffs previously recorded to cost of revenues. Therefore, we recorded the corresponding approved tariff refunds as credits to cost of revenues in the current period. For the year ended December 31, 2020, we recorded the $0.6 million accrued interest as interest income in our consolidated statement of operations. The tariff refund receivable of $14.7 million is recorded as a reduction of accounts payable to Flex Ltd. and affiliates, our manufacturing partner and the importer of record who will first receive the tariff refunds, on the consolidated balance sheet as of December 31, 2020. This exemption has expired in August 2020, and our request to extend it has been denied. Unless U.S. policy changes, or we are eligible for other exemptions or take other actions to avoid them, such tariffs will continue to apply to our microinverters and other products. Such tariffs could hurt the demand for these products and materially harm our business, financial condition and results of operations. There is no guarantee that we will be successful in obtaining exemptions or that any actions that we may pursue with respect to the organization and operation of our business will effectively mitigate the effects of any tariffs that apply to our business. If we are not able to avoid or mitigate the effects of such tariffs, the tariffs (or mitigating actions we might take) could result in material additional costs to us and our suppliers, and our results of operations could be negatively impacted as a result.

It is unknown whether and to what extent additional new tariffs or other new laws or regulations will be adopted that increase the cost of manufacturing in China and/or importing components from China to the United States. Further, it is unknown what effect that any such new tariffs or retaliatory actions would have on us or our industry and customers. Our LFP lithium-ion phosphate battery cells for our storage products are supplied solely via our two suppliers in China. Although we are in the process of searching for other suppliers outside of China for future supplies, the expertise and industry for the LFP lithium-ion phosphate battery cell is primarily in China and we cannot be certain that we will locate additional qualified suppliers with the right expertise to develop our battery cells outside of China, if at all.

In response to the tensions in US-China trade relations and increased tariffs, we focused efforts and resources on attaining manufacturers outside of China, primarily in Mexico and India. The tariffs and the possibility of additional tariffs in the future have created uncertainty in the industry. If the price of solar power systems in the United States increases, the use of solar power systems could become less economically feasible and could reduce our gross margins or reduce the demand of solar power systems manufactured and sold, which in turn may decrease demand for our products. Additionally, existing or future tariffs may negatively affect key partners, suppliers, and manufacturers. Such outcomes could adversely affect the amount or timing of our revenues, results of operations or cash flows, and continuing uncertainty could cause sales volatility, price fluctuations or supply shortages or cause our customers to advance or delay their purchase of our products. It is difficult to predict what further trade-related actions governments may take, which may include additional or increased tariffs and trade restrictions, and we may be unable to quickly and effectively react to such actions. As additional new tariffs, legislation and/or regulations are implemented, or if existing trade agreements are renegotiated or if China or other

affected countries take retaliatory trade actions, such changes could have a material adverse effect on our business, financial condition, results of operations or cash flows.

Our significant international operations subject us to additional risks that could adversely affect our business, results of operations and financial condition.

We have significant international operations, including in emerging markets such as India, and we are continuing to expand our international operations as part of our growth strategy. As of December 31, 2020, approximately 41% of our total employees were located in India, where we primarily conduct our research and development activities, procurement, customer support services, and other general and administrative support functions. Our current international operations and our plans to expand our international operations have placed, and will continue to place, a strain on our employees, management systems and other resources.

Our international operations may fail to succeed due to risks inherent in operating businesses internationally, such as:

- our lack of familiarity with commercial and social norms and customs in countries which may adversely affect our ability to recruit, retain and manage employees in these countries;
- difficulties and costs associated with staffing and managing foreign operations;
- the potential diversion of management's attention to oversee and direct operations that are geographically distant from our U.S. headquarters;
- compliance with multiple, conflicting and changing governmental laws and regulations, including employment, tax, privacy and data protection laws and regulations;
- legal systems in which our ability to enforce and protect our rights may be different or less effective than in the United States and in which the ultimate result of dispute resolution is more difficult to predict;
- higher employee costs and difficulty in terminating non-performing employees;
- differences in workplace cultures;
- unexpected changes in regulatory requirements;
- tariffs, export controls and other non-tariff barriers such as quotas and local content rules;
- more limited protection for intellectual property rights in some countries;
- adverse tax consequences, including as a result of transfer pricing adjustments involving our foreign operations;
- fluctuations in currency exchange rates;
- anti-bribery compliance by us or our partners;
- restrictions on the transfer of funds;
- global epidemics, pandemics, or contagious diseases; and
- new and different sources of competition.

Our failure to manage any of these risks successfully could harm our existing and future international operations and seriously impair our overall business.

We could be adversely affected by any violations of the FCPA, the U.K. Bribery Act, and other foreign anti-bribery laws.

The U.S. Foreign Corrupt Practices Act ("FCPA") generally prohibits companies and their intermediaries from making improper payments to non-U.S. government officials for the purpose of obtaining or retaining business. Other countries in which we operate also have anti-bribery laws, some of which prohibit improper payments to government and non-government persons and entities, and others (e.g., the FCPA and the U.K. Bribery Act) extend their application to activities outside of their country of origin. Our policies mandate compliance with all applicable anti-bribery laws. We currently operate in, and may further expand into, key parts of the world that have 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. Although, we implement policies and procedures and conduct training designed to facilitate compliance with these anti-bribery laws, thereby mitigating the risk of violations of such laws, our employees, subcontractors, agents and partners 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.

From time to time we are involved in a number of legal proceedings and, while we cannot predict the outcomes of such proceedings and other contingencies with certainty, some of these outcomes could adversely affect our business and financial condition.

We are, or may become, involved in legal proceedings, government and agency investigations, and consumer, employment, tort and other litigation. We cannot predict with certainty the outcomes of these legal proceedings (see discussion of "Legal Proceedings" in Item 3 Part I of this Annual Report on Form 10-K). The outcome of some of these legal proceeding could require us to take, or refrain from taking, actions which could negatively affect our operations or could require us to pay substantial amounts of money adversely affecting our financial condition and results of operations. There can also be no assurance that we are adequately insured to protect against all claims and potential liabilities. Additionally, defending against lawsuits and legal proceedings may involve significant expense and could divert the attention of our key personnel.

Risks Related to Our Financial Condition and Liquidity

The reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity applications could reduce demand for solar PV systems and harm our business.

The market for on-grid applications, where solar power is used to supplement a customer's electricity purchased from the utility network or sold to a utility under tariff, depends in large part on the availability and size of government and economic incentives that vary by geographic market. Because our customers' sales are typically into the on-grid market, the reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity may negatively affect the competitiveness of solar electricity relative to conventional and non-solar renewable sources of electricity and could harm or halt the growth of the solar electricity industry and our business.

In general, the cost of solar power currently exceeds retail electricity rates, and we believe this tendency will continue in the near term. As a result, national, state and local government bodies in many countries, including the U.S., have provided incentives in the form of feed-in tariffs ("FiTs"), rebates, tax credits and other incentives to system owners, distributors, system integrators and manufacturers of solar PV systems to promote the use of solar electricity in on-grid applications and to reduce dependency on other forms of energy. Many of these government incentives expire, phase out over time, terminate upon the exhaustion of the allocated funding, require renewal by the applicable authority or are being changed by governments due to changing market circumstances or changes to national, state or local energy policy.

Electric utility companies or generators of electricity from other non-solar renewable sources of electricity may successfully lobby for changes in the relevant legislation in their markets that are harmful to the solar industry. Reductions in, or eliminations or expirations of, governmental incentives in regions where we focus our sales efforts could result in decreased demand for and lower revenue from solar PV systems there, which would adversely affect sales of our products. In addition, our ability to successfully penetrate new geographic markets may depend on new countries adopting and maintaining incentives to promote solar electricity, to the extent such incentives are not currently in place. Furthermore, electric utility companies may establish pricing structures or interconnection requirements that could adversely affect our sales and be harmful to the solar and distributed rooftop solar generation industry.

Our gross profit may fluctuate over time, which could impair our ability to achieve or maintain profitability.

Our gross profit has varied in the past and is likely to continue to vary significantly from period to period. Our gross profit may be adversely affected by numerous factors, some of which are beyond our control, including:

- changes in customer, geographic or product mix;
- increased price competition, including the impact of customer and competitor discounts and rebates;
- our ability to reduce and control product costs, including our ability to make product cost reductions in a timely manner to offset declines in our product prices;
- warranty costs and reserves, including changes resulting from changes in estimates related to the long-term performance of our products, product replacement costs and warranty claim rates, as well as changes in the discount rates;
- loss of cost savings due to changes in component or raw material pricing or charges incurred due to inventory holding periods if product demand is not correctly anticipated;
- introduction of new products;
- ordering patterns from our distributors;
- price reductions on older products to sell remaining inventory;
- component shortages and related expedited shipping costs;
- our ability to reduce production costs, such as through technology innovations, in order to offset price declines in our products over time;
- changes in shipment volume;
- changes in distribution channels;
- excess and obsolete inventory and inventory holding charges;
- expediting costs incurred to meet customer delivery requirements;
- tariffs assessed on our products imported to the U.S. and elsewhere; and
- fluctuations in foreign currency exchange rates.

Fluctuations in gross profit may adversely affect our ability to manage our business or achieve or maintain profitability.

We are under continuous pressure to reduce the prices of our products, which has adversely affected, and may continue to adversely affect, our gross margins.

The solar power industry has been characterized by declining product prices over time. We have reduced the prices of our products in the past, and we expect to continue to experience pricing pressure for our products in the future, including from our major customers. In addition, we have reduced our prices ahead of planned cost reductions of our products, which has adversely affected our gross margins. When seeking to maintain or increase their market share, our competitors may also reduce the prices of their products. In addition, our customers may have the ability or seek to internally develop and manufacture competing products at a lower cost than we would otherwise charge, which would add additional pressure on us to lower our selling prices. If we are unable to offset any future reductions in our average selling prices by increasing our sales volume, reducing our costs and expenses or introducing new products, our gross margins would continue to be adversely affected.

Given the general downward pressure on prices for our products driven by competitive pressure and technological change, a principal component of our business strategy is reducing the costs to manufacture our products to remain competitive. If our competitors are able to drive down their manufacturing costs faster than we can or increase the efficiency of their products, our products may become less competitive even when adjusted for efficiency, and we may be forced to sell our products at a price lower than our cost. Further, if raw materials costs and other third-party component costs were to increase, we may not meet our cost reduction targets. If we cannot effectively execute our cost reduction roadmap, we may not be able to remain price competitive, which would result in lost market share and lower gross margins.

A drop in the retail price of electricity derived from the utility grid or from alternative energy sources, or a change in utility pricing structures, may harm our business, financial condition and results of operations.

We believe that a system owner's decision to purchase a solar PV system is strongly influenced by the cost of electricity generated by solar PV installations relative to the retail price of electricity from the utility grid and the cost of other renewable energy sources, including electricity from solar PV installations using central inverters. Decreases in the retail prices of electricity from the utility grid would make it more difficult for all solar PV systems to compete. In particular, growth in unconventional natural gas production and an increase in global liquefied natural gas capacity are expected to keep natural gas prices relatively low for the foreseeable future. Persistent low natural gas prices, lower prices of electricity produced from other energy sources, such as nuclear power or coal-fired plants, or improvements to the utility infrastructure could reduce the retail price of electricity from the utility grid, making the purchase of solar PV systems less economically attractive and depressing sales of our products. In addition, energy conservation technologies and public initiatives to reduce demand for electricity also could cause a fall in the retail price of electricity from the utility grid. Moreover, technological developments by our competitors in the solar industry, including manufacturers of central inverters and DC-to-DC optimizers, could allow these competitors or their partners to offer electricity at costs lower than those that can be achieved from solar PV installations based on our product platform, which could result in reduced demand for our products. Additionally, as increasing adoption of distributed generation places pressure on traditional utility business models or utility infrastructure, utilities may change their pricing structures to increase the cost of installation or operation of solar distributed generation. Such measures can include grid access fees, costly or lengthy interconnection studies, limitations on distributed generation penetration levels, or other measures. If the cost of electricity generated by solar PV installations incorporating our solutions is high relative to the cost of electricity from other sources, our business, financial condition and results of operations may be harmed.

If we do not forecast demand for our products accurately, we may experience product shortages, delays in product shipment, excess product inventory, difficulties in planning expenses or disputes with suppliers, any of which will adversely affect our business and financial condition.

We manufacture our products according to our estimates of customer demand. This process requires us to make multiple forecasts and assumptions relating to the demand of our distributors, their end customers and general market conditions. Because we sell most of our products to distributors, who in turn sell to their end customers, we have limited visibility as to end-customer demand. We depend significantly on our distributors to provide us visibility into their end-customer demand, and we use these forecasts to make our own forecasts and planning decisions. If the information from our distributors turns out to be incorrect, then our own forecasts may also be inaccurate. Furthermore, we do not have long-term purchase commitments from our distributors or end customers, and our sales are generally made by purchase orders that may be canceled, changed or deferred without notice to us or penalty. As a result, it is difficult to forecast future customer demand to plan our operations.

If we overestimate demand for our products, or if purchase orders are canceled or shipments are delayed, we may have excess inventory that we cannot sell. We may have to make significant provisions for inventory write-downs based on events that are currently not known, and such provisions or any adjustments to such provisions could be material. We may also become involved in disputes with our suppliers who may claim that we failed to fulfill forecast or minimum purchase requirements. Conversely, if we underestimate demand, we may not have sufficient inventory to meet end-customer demand, and we may lose market share, damage relationships with our distributors and end customers and forgo potential revenue opportunities. Obtaining additional supply in the face of product shortages may be costly or impossible, particularly in the short term due to the COVID-19 pandemic and in light of our outsourced manufacturing processes, which could prevent us from fulfilling orders in a timely and cost-efficient manner or at all. In addition, if we overestimate our production requirements, our contract manufacturers may purchase excess components and build excess inventory. If our contract manufacturers, at our request, purchase excess components that are unique to our products and are unable to recoup the costs of such excess through resale or return or build excess products, we could be required to pay for these excess parts or products and recognize related inventory write-downs.

In addition, we plan our operating expenses, including research and development expenses, hiring needs and inventory investments, in part on our estimates of customer demand and future revenue. If customer demand or revenue for a particular period is lower than we expect, we may not be able to proportionately reduce our fixed operating expenses for that period, which would harm our operating results for that period.

Our focus on a limited number of specific markets increases risks associated with the modification, elimination or expiration of governmental subsidies and economic incentives for on-grid solar electricity applications.

To date, we have generated the majority of our revenues from North America, and a substantial majority of our revenues come from the U.S., and revenues generated from the U.S. market have represented 82%, 84% and 69% of our total revenue for annual period ending on December 31, 2020, 2019 and 2018, respectively. We also expect to continue to generate a substantial amount of our revenues from North America in the future.

There are a number of important incentives (including U.S. federal and state tax incentives) that are expected to phase-out or terminate in the future, which could adversely affect sales of our products in North America and other markets. For instance, the Renewable Energy and Job Creation Act of 2008 provided a 30% federal tax credit for residential and commercial solar installations through December 31, 2019, which was reduced to a tax credit of 26% for any solar energy system that began construction during 2020 through December 31, 2022, and 22% thereafter to December 31, 2023 before being reduced to 10% for commercial installations and 0% for residential installations beginning on January 1, 2024. As a result, several of our customers explored opportunities to purchase products in 2019 to take advantage of safe harbor guidance from the IRS published in June 2018, allowing them to preserve the historical 30% investment tax credit for solar equipment purchased in 2019 for solar projects that are completed after December 31, 2019. These tax credits could be reduced or eliminated as part of the U.S. Internal Revenue Code of 1986, as amended (the “Code”), changes or regulatory reform initiatives by the current Congress or the new presidential administration.

In addition, net energy metering tariffs are being evaluated and, in some instances modified, which may have a negative impact on future inverter sales. We derive a significant portion of our revenues from California’s residential solar market and the existing California net energy metering tariff has been very successful in incentivizing the installation of residential solar power systems. Future legislative or regulatory changes in California may discourage further growth in the residential solar market.

A number of European countries, including Germany, Belgium, Italy and the United Kingdom have adopted reductions in or concluded their net energy metering or FiT programs. Certain countries have proposed or enacted taxes levied on renewable energy. These and related developments have significantly impacted the solar industry in Europe and may adversely affect the future demand for the solar energy solutions in Europe.

We also sell our products in Australia. In 2012 Australia enacted a Renewable Energy Target that is intended to ensure that 33,000 Gigawatt-hours of Australia's electricity comes from renewable sources by 2020. This policy supports both the installation of large-scale centralized renewable generation projects, along with small-scale systems of under 100kW each for residential and small business customers. This target was met in 2019; however, the scheme continues to require high-energy users to meet their obligations under the policy until 2030. During 2018, the states of Victoria and South Australia introduced state-based incentive schemes, aimed at solar customers in the state of Victoria and battery storage in the state of South Australia. Other Australian states and territories introduced similar programs in 2019. Any change in, or failure to implement, these programs may adversely affect the demand for solar energy solutions in Australia.

U.S. federal and state tax credits, grants and other incentive programs have had a positive effect on our sales since inception. However, unless these programs are further extended or modified to allow for continued growth in the residential solar market, the phase-out of such programs could adversely affect sales of our products in the future. Reductions in incentives and uncertainty around future energy policy, including local content requirements, have negatively affected and may continue to negatively affect our business, financial condition, and results of operations as we seek to increase our business domestically and abroad. Additionally, as we further expand to other countries, changes in incentive programs or electricity policies could negatively affect returns on our investments in those countries as well as our business, financial condition, and results of operations.

Although we had net income in the past two years, we cannot be certain that we will sustain profitability.

We had net income of $134.0 million and $161.1 million in the years ended December 31, 2020 and 2019, respectively, compared to the year ended December 31, 2018 where we incurred a net loss of $11.6 million. We incurred substantial net losses from our inception through the year ended December 31, 2018, and we may not be able to sustain profitability and may incur additional losses in the future. At December 31, 2020, we had an accumulated deficit of $51.2 million. Our revenue growth may slow or revenue may decline for a number of reasons, many of which are outside our control, including a decline in demand for our offerings, increased competition, a decrease in the growth of the solar industry or our market share, future declines in average selling prices of our products, the impact of U.S. trade tariffs, the imposition of additional tariffs applicable to our industry or our products, or our failure to capitalize on growth opportunities. If we fail to generate sufficient revenue to support our operations, we may not be able to sustain profitability.

Risks Related to our Acquisition Activity

The failure to successfully develop new generation products that are compatible with those of SunPower could have a material adverse effect on our business, financial condition and results of operations.

Our failure to continue to successfully integrate our microinverter products and software with SunPower's solar modules could negatively impact our revenue projections, impair goodwill, intangible assets recognized, and otherwise have a material adverse effect on our business, financial condition and results of operations.

As of December 31, 2020, we have $28.5 million of finite-lived intangible assets, net for developed technology and customer relationship and $21.1 million of goodwill acquired from SunPower pursuant to the Asset Purchase Agreement transaction with SunPower in August 2018 (the "SunPower APA"). We make assumptions and estimates in this assessment which are complex and often subjective. Our judgement and estimates can be affected by a variety of factors, including external factors such as industry and economic trends, and internal factors such as changes in our business strategy or our internal forecasts. To the extent that the factors described above change, we could be required to record additional non-cash impairment charges in the future, which could negatively affect our results of operations.

We may fail to realize some or all of the anticipated benefits of the SunPower transaction which may result in conflicts between us and SunPower.

Our ability to realize the anticipated benefits of the SunPower transaction will depend, to a large extent, on our ability to successfully execute the terms of the SunPower Master Supply Agreement ("MSA"), which is a complex and time-consuming process. Any delay, failure or breach of obligations under the MSA could adversely impact the expected benefits of the transaction and could otherwise have a material adverse effect on our business, financial condition and results of operations.

Additionally, in connection with the SunPower APA transaction, SunPower acquired 7.5 million shares of our common stock and has the right to designate one member of our board of directors. Through its share ownership and board seat, SunPower may have the ability to directly or indirectly influence our business, and conflicts may arise between us and SunPower regarding corporate priorities and strategic objectives. As of December 31, 2020, SunPower held 3.5 million shares of our common stock.

As part of growing our business, we have made and expect to continue to make acquisitions. If we fail to successfully select, execute or integrate our acquisitions, then our business and operating results could be harmed and our stock price could decline.

From time to time, we will undertake acquisitions to add new product lines and technologies, gain new sales channels or enter into new sales territories. For example, in January 2021, we acquired Sofdesk Inc., a cloud-based solar energy software company, to extend our solar offering through digital transformation, and on February 8, 2021 we announced our pending acquisition of the solar design services business of DIN Engineering Services LLP. Acquisitions involve numerous risks and challenges, including but not limited to the following:

- integrating the companies, assets, systems, products, sales channels and personnel that we acquire;
- higher than anticipated acquisition and integration costs and expenses;
- reliance on third parties to provide transition services for a period of time after closing to ensure an orderly transition of the business;
- growing or maintaining revenues to justify the purchase price and the increased expenses associated with acquisitions;
- entering into territories or markets with which we have limited or no prior experience;
- establishing or maintaining business relationships with customers, vendors and suppliers who may be new to us;
- overcoming the employee, customer, vendor and supplier turnover that may occur as a result of the acquisition;
- disruption of, and demands on, our ongoing business as a result of integration activities including diversion of management's time and attention from running the day to day operations of our business;
- inability to implement uniform standards, disclosure controls and procedures, internal controls over financial reporting and other procedures and policies in a timely manner;
- inability to realize the anticipated benefits of or successfully integrate with our existing business the businesses, products, technologies or personnel that we acquire; and
- potential post-closing disputes.

As part of undertaking an acquisition, we may also significantly revise our capital structure or operational budget, such as issuing common stock that would dilute the ownership percentage of our stockholders, assuming liabilities or debt, utilizing a substantial portion of our cash resources to pay for the acquisition or significantly increasing operating expenses. Our acquisitions have resulted and may in the future result in charges being taken in an individual quarter as well as future periods, which results in variability in our quarterly earnings. In addition, our effective tax rate in any particular quarter may also be impacted by acquisitions. Following the closing of an acquisition, we may also have disputes with the seller regarding contractual requirements and covenants, purchase price adjustments, contingent payments or for indemnifiable losses. Any such disputes may be time consuming and distract management from other aspects of our business. In addition, if we increase the pace or size of acquisitions, we will have to expend significant management time and effort into the transactions and integrations, and we may not have the proper human resources bandwidth to ensure successful integrations and accordingly, our business could be harmed or the benefits of our acquisitions may not be realized.

As part of the terms of an acquisition, we may commit to pay additional contingent consideration if certain revenue or other performance milestones are met. We are required to evaluate the fair value of such commitments at each reporting date and adjust the amount recorded if there are changes to the fair value.

We cannot ensure that we will be successful in selecting, executing and integrating acquisitions. Failure to manage and successfully integrate acquisitions could materially harm our business and operating results. In addition, if stock market analysts or our stockholders do not support or believe in the value of the acquisitions that we choose to undertake, our stock price may decline.

We invest in companies for both strategic and financial reasons but may not realize a return on our investments

We have made, and continue to seek to make, investments in companies around the world to further our strategic objectives and support our key business initiatives. These investments may include equity or debt instruments of public or private companies and may be non-marketable at the time of our initial investment. We do not restrict the types of companies in which we seek to invest. These companies may range from early-stage companies that are often still defining their strategic direction to more mature companies with established revenue streams and business models. If any company in which we invest fails, we could lose all or part of our investment in that company. If we determine that an other-than-temporary decline in the fair value exists for an equity or debt investment in a public or private company in which we have invested, we will have to write down the investment to its fair value and recognize the related write-down as an investment loss. The performance of any of these investments could result in significant impairment charges and gains (losses) on other equity investments. We must also analyze accounting and legal issues when making these investments. If we do not structure these investments properly, we may be subject to certain unfavorable accounting impact, such as potential consolidation of financial results.

Furthermore, if the strategic objectives of an investment have been achieved, or if the investment or business diverges from our strategic objectives, we may seek to dispose of the investment. Our non-marketable equity investments in private companies are not liquid, and we may not be able to dispose of these investments on favorable terms or at all. The occurrence of any of these events could harm our results. Gains or losses from equity securities could vary from expectations depending on gains or losses realized on the sale or exchange of securities and impairment charges related to debt instruments as well as equity and other investments.

Risks Related to our Debt and Equity Securities

Conversion of our Convertible Notes may dilute the ownership interest of existing stockholders or may otherwise depress the price of our common stock, adversely affect our financial condition and operating results.

In March 2020, we issued and sold a total of $320.0 million aggregate principal amount of our Notes due 2025 (the “Notes due 2025”).

In June 2019, we issued and sold a total of $132.0 million aggregate principal amount of our convertible senior notes due 2024 (the “Notes due 2024”).

In August 2018, we issued and sold a total of $65.0 million aggregate principal amount of our convertible senior notes due 2023 (the “Notes due 2023”) in a private placement to qualified institutional buyers and an affiliate of ours. In May 2019, we entered into separately and privately negotiated transactions with certain holders of the Notes due 2023 resulting in the repurchase and exchange of $60.0 million aggregate principal amount of the notes in consideration for the issuance of shares of common stock and separate cash payments.

The Conversion Condition for the Notes due 2024 was met for all quarters ended March 31, 2020 through December 31, 2020. Therefore, our Notes due 2024 became convertible at the holders’ option beginning on April 1, 2020 and continue to be convertible through March 31, 2021. Accordingly, we classified the net carrying amount of the Notes due 2024 of $69.0 million as debt, current on the consolidated balance sheet as of December 31, 2020. From January 1, 2021 through February 12, 2021, we have received the request for conversion of approximately $61.5 million in principal amount of our Notes due 2024, of which we have elected to settle the aggregate principal amount of the Notes due 2024 in a combination of cash and any excess in shares of our common stock in accordance with the applicable indenture. Such conversion will be settled in March 2021. We may purchase shares under the convertible note hedge to the extent shares of our common stock are issued for the additional conversion amount due over the principal amount. From January 1, 2021 through February 12, 2021, we had not purchased any shares under the convertible note hedge and the warrants had not been exercised and remain outstanding. If we receive additional requests for conversion from the holders of the Notes due 2024 to exercise their right to convert the debt to equity, we have asserted our intent and ability to settle the remaining $26.6 million aggregate principal amount of the Notes due 2024 in cash.

The Conversion Condition for the Notes due 2025 was met during the quarter ended December 31, 2020. Therefore, our Notes due 2025 became convertible at the holders’ option beginning on January 1, 2021 and continue to be convertible through March 31, 2021. Accordingly, we have classified the net carrying amount of the Notes due 2025 of $255.0 million as debt, current on the consolidated balance sheet as of December 31, 2020.

During the fourth quarter of 2020, holders converted $43.9 million in aggregate principal amount of the Notes due 2024, the principal amount of which was repaid in cash. Of the $43.9 million in aggregate principal amount, $38.5 million in aggregate principal amount was settled pursuant to an exchange agreement entered into in December 2020 with certain holders of Notes due 2024. In connection with the exchange agreement, we entered into partial unwind agreements to unwind a number of warrants exercisable under the hedging arrangements previously entered into in connection with the issuances of the Notes due 2024, and we issued approximately 2.1 million warrants on a net basis, resulting in a net issuance of approximately 1.9 million shares of our common stock to the holders with an aggregate fair value of $301.0 million, representing the conversion value in excess of the principal amount of the Notes due 2024, which were fully offset by shares received from our exercise of the associated note hedging arrangements discussed below. As of December 31, 2020, warrants exercisable to purchase a total of approximately 4.3 million shares remain outstanding. The total amount of $43.9 million paid to partially settle the Notes due 2024 was allocated between the liability and equity components of the amount extinguished by determining the fair value of the liability component immediately prior to the notes settlement and allocating that portion of the conversion price to the liability component in the amount of $37.2 million. The residual of the conversion price of $6.7 million was allocated to the equity component of the Notes due 2024 as a reduction of additional paid-in capital. The fair value of the notes settlement was calculated using a discount rate of 5.75%, representing an estimate of our borrowing rate at the date of repurchase with a remaining expected life of approximately 3.6 years. As part of the settlement, we wrote-off the $8.9 million unamortized debt discount and $0.8 million debt issuance cost apportioned to the principal amount of Notes due 2024 settled. We also recorded a loss on partial settlement of the Notes due 2024 of $3.0 million in other expense, net, representing the difference between the consideration attributed to the liability component and the sum of the net carrying amount of the liability component and unamortized debt issuance costs. As of December 31, 2020, $88.1 million aggregate principal amount of the Notes due 2024 remains outstanding.

We may receive additional conversion requests that require settlement in the first quarter of 2021. If more holders elect to convert their Notes due 2024 and Notes due 2025 in future periods, we intend to settle all or a portion of our conversion obligation related to the aggregate principal amount in cash, which could adversely affect our liquidity and result in a material adverse effect on our financial position, results of operations and cash flows. In addition, to the extent we receive conversion requests, we may also record a loss on early conversions of the Notes due 2025 and Notes due 2025 converted by note holders based on the difference between the fair market value allocated to the liability component on the settlement date and the net carrying amount of the liability component and unamortized debt issuance on the settlement date.

As of December 31, 2020,

- $320.0 million aggregate principal amount of the Notes due 2025 were outstanding; (the foregoing, collectively, the “Convertible Notes”);
- $88.1 million aggregate principal amount of the Notes due 2024 were outstanding; and
- $5.0 million aggregate principal amount of the Notes due 2023 were outstanding; (the foregoing, collectively, the “Convertible Notes”).

The conversion of some or all of the Convertible Notes may dilute the ownership interests of existing stockholders. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the Convertible Notes may encourage short selling by market participants because the conversion of the Convertible Notes could be used to satisfy short positions. In addition, the anticipated conversion of the Convertible Notes into shares of our common stock could depress the price of our common stock.

Servicing our debts requires a significant amount of cash, and we may not have sufficient cash flow from our business to pay our debts.

Our ability to make scheduled payments of the principal of, to pay interest on or to refinance our indebtedness, including the Convertible Notes, depends on our future performance, which is subject to economic, financial, competitive and other factors beyond our control. Our business may not continue to generate cash flow from operations in the future sufficient to service our debts, including the Convertible Notes, and make necessary capital expenditures. If we are unable to generate cash flow, we may be required to adopt one or more alternatives, such as selling assets, restructuring debt or obtaining additional equity capital on terms that may be onerous or highly dilutive. Our ability to refinance our indebtedness, including the Convertible Notes, will depend on the capital markets and our financial condition at such time. We may not be able to engage in any of those activities or engage in these activities on desirable terms, which could result in a default on our debt obligations, including our obligations under the Convertible Notes.

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

Holders of our Convertible Notes will have the right to require us to repurchase their Convertible Notes upon the occurrence of a fundamental change at a fundamental change repurchase price equal to 100% of the principal amount of the Convertible Notes to be repurchased, plus accrued and unpaid interest, if any. Fundamental change is defined in the Convertible Notes Indenture entered into in connection with the financing and consists of events such as an acquisition of a majority of our outstanding common stock, an acquisition of our company or substantially all of our assets, the approval by our stockholders of a plan of liquidation or dissolution, or our common stock no longer being listed on the Nasdaq Global Select Market or the Nasdaq Global Market. Upon conversion of the Convertible Notes, unless we elect to deliver solely shares of our common stock to settle such conversion (other than paying cash in lieu of delivering any fractional share), we will be required to make cash payments in respect of the Convertible Notes being converted. However, we may not have enough available cash or be able to obtain financing at the time we are required to make such repurchase of the Convertible Notes. In addition, our ability to repurchase the Convertible Notes or to pay cash upon conversion of the Convertible Notes may be limited by law, by regulatory authority or by agreements governing our future indebtedness. Our failure to repurchase notes at a time when the repurchase is required by the relevant indenture or to pay any cash payable on future conversions of the notes as required by the relevant indenture would constitute a default under the relevant indenture. A default under the indenture or a fundamental change itself could also lead to a default under agreements governing our future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay the indebtedness and repurchase the Convertible Notes or make cash payments upon conversion of the Convertible Notes.

The convertible note hedge and warrant transactions and/or their early termination may affect the value of our common stock.

In connection with the offering of the Notes due 2025 and Notes due 2024, we entered into privately negotiated convertible note hedge transactions pursuant to which we have the option to purchase approximately the same number of shares of our common stock initially issuable upon conversion of the Notes due 2025 and Notes due 2024, at a price approximately the same as the initial conversion price of the Notes due 2025 and Notes due 2024. These transactions are expected to reduce the potential dilution with respect to our common stock upon conversion of the Notes due 2025 and Notes due 2024. Separately, we also entered into privately negotiated warrant transactions to acquire the same number of shares of our common stock initially issuable upon conversion of the Notes due 2025 and Notes due 2024 (subject to customary anti-dilution adjustments) at an initial strike price of approximately $81.54 per share and $25.23 per share for Notes due 2025 and Notes due 2024, respectively. If the market value per share of our common stock, as measured under the warrants, exceeds the strike price of the warrants, the warrants will have a dilutive effect on the ownership interests of existing stockholders and on our earnings per share, unless we elect, subject to certain conditions, to settle the warrants in cash. However, we may not have enough available cash or be able to obtain financing at the time of settlement.

In addition, the existence of the convertible note hedge and warrant transactions may encourage purchasing and selling share of our common stock, or other of our securities and instruments, in open market and/or privately negotiated transactions in order to modify hedge positions. Any of these activities could adversely affect the value of our common stock and the value of the Notes due 2025 and Notes due 2024.

Changes in current accounting methods, standards, or regulations applicable to the Convertible Notes due 2025 and Notes due 2024 could have a material impact on our reported financial results, future financial results, future cash flows, and/or our stock price.

Under Accounting Standards Codification ("ASC") 470-20, "Debt with Conversion and Other Options," an entity must separately account for the host contract and conversion option associated with convertible debt instruments, such as the Notes due 2025 and Notes due 2024, that may be settled entirely or partially in cash upon conversion, in a manner that reflects the issuer's economic interest cost. For Notes due 2024, conversion option meets the classification of an equity component, hence we have included the equity component in the additional paid-in capital section of stockholders' equity on our condensed consolidated balance sheet at the issuance date. For Notes due 2025, conversion option met the classification of an embedded derivative liability, from March 9, 2020 to May 19, 2020, and hence we had included embedded derivative liability in the Debt, non-current on our condensed consolidated balance sheet at the issuance date. Effective upon the filing of an amendment to our certificate of incorporation on May 20, 2020, the conversion option of the Notes due 2025 met the classification of an equity component, hence we reclassified the embedded derivative liability in the Debt, non-current to additional paid-in capital section of stockholders' equity on our condensed consolidated balance sheet on May 20, 2020. This change in fair value of derivatives has resulted in a charge recognized of $44.3 million for the year ended December 31, 2020. We have treated the value of the equity component and embedded derivative liability as debt discount for the host contract at the issuance date. We are required to amortize the debt discount as non-cash interest expense over the term of the Notes due 2025 and Notes due 2024, which could adversely affect our reported or future financial results or the trading price of our common stock.

In addition, we use the treasury stock method for convertible debt instruments (such as the Notes due 2024 since the date of issuance and Notes due 2025 since May 20, 2020) that may be settled entirely or partly in cash, and the effect of which is that any shares issuable upon conversion of the notes are not included in the calculation of diluted earnings per share except to the extent that the conversion value of such notes exceeds their principal amount. In August 2020, the FASB issued Account Standard Update ("ASU") 2020-06, "Debt - Debt with Conversion and Other Options (subtopic 470-20)," effective January 1, 2022, which requires a convertible debt instrument to be accounted for as a single liability measured at its amortized cost. Interest expense recorded in the consolidated statements of operations will be close to the coupon rate interest expense. Further, for the diluted earnings per share calculation, treasury stock method will no longer be permitted. The if-converted method will be used for the calculation of the diluted earnings per share calculation, when accounting for the shares issuable upon conversion of the Notes due 2024 and Notes due 2025, which will adversely affect our diluted earnings per share.

ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments," clarifies how certain cash receipts and payments should be classified in the statement of cash flows, including the cash settlement for our Notes due 2024 and Notes due 2025. Upon cash settlement, repayment of the principal amount will be bifurcated between cash outflows for operating activities for the portion related to accreted interest attributable to debt discounts arising from the difference between the coupon interest rate and the effective interest rate, and financing activities for the remainder. This will require us to classify the debt discount totaling $36.4 million for Notes due 2024 and $68.7 million for Notes due 2025 of accreted interest as cash used in operating activities in our consolidated statement of cash flows upon cash settlement, if and when such cash settlement occurs prior to the adoption of ASU 2020-06 discussed above, which could adversely affect our future cash flow from operations. In our consolidated statement of cash flows for the year ended December 31, 2020, $3.1 million of the debt discount associated with the conversion of $43.9 million in aggregate principal amount of the Notes due 2024 was classified as cash used in operating activities.

The market price of our common stock may be volatile or may decline regardless of our operating performance.

The market price of our common stock has been and could be subject to wide fluctuations in response to, among other things, the other risk factors described herein, and other factors beyond our control, such as quarterly variations in operating results, announcements of technology innovations or new products by us or our competitors, changes in financial estimates and recommendations by securities analysts, the operating and stock price performance of other companies that investors may deem comparable to us, and new reports relating to trends in our markets or general economic conditions. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions, such as recessions, interest rate changes or international currency fluctuations, may negatively affect the market price of our common stock, regardless of our operating performance.

In addition, in the past, many companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation. We may become the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business.

Our financial results may vary significantly from quarter to quarter due to a number of factors, which may lead to volatility in our stock price.

Our quarterly revenue and results of operations have varied in the past and may continue to vary significantly from quarter to quarter. As a result, the trading price of our common stock has been, and is likely to continue to be, volatile and could be subject to wide fluctuations in response to various factors, some of which are beyond our control. In addition, the trading prices of the securities of solar companies in general have been highly volatile, and the volatility in market price and trading volume of securities is often unrelated or disproportionate to the financial performance of the companies issuing the securities. Factors affecting the market price of our common stock, some of which are beyond our control, include:

- seasonal and other fluctuations in demand for our products;
- the timing, volume and product mix of sales of our products, which may have different average selling prices or profit margins;
- changes in our pricing and sales policies or the pricing and sales policies of our competitors;
- the impacts and the evolving effects of the ongoing COVID-19 pandemic on our business, sales and results of operations;
- our ability to design, manufacture and deliver products to our customers in a timely and cost-effective manner and that meet customer requirements;
- our ability to manage our relationships with our contract manufacturers, customers and suppliers;
- quality control or yield problems in our manufacturing operations;
- the anticipation, announcement or introductions of new or enhanced products by our competitors and ourselves;
- reductions in the retail price of electricity;
- changes in laws, regulations and policies applicable to our business and products, particularly those relating to government incentives for solar energy applications;
- the impact of tariffs on the solar industry in general and our products in particular;
- unanticipated increases in costs or expenses;
- the amount and timing of operating costs and capital expenditures related to the maintenance and expansion of our business operations;
- the impact of government-sponsored programs on our customers;
- our exposure to the credit risks of our customers, particularly in light of the fact that some of our customers are relatively new entrants to the solar market without long operating or credit histories and impacts of the COVID-19 pandemic they may experience;
- our ability to estimate future warranty obligations due to product failure rates, claim rates or replacement costs;
- our ability to forecast our customer demand and manufacturing requirements, and manage our inventory;
- fluctuations in our gross profit;
- our ability to predict our revenue and plan our expenses appropriately;
- fluctuations in foreign currency exchange rates;
- announcement of acquisitions or dispositions of our assets or business operations;
- issuances of our common stock or equity-linked securities such as the Convertible Notes;

- changes in our management;
- technical factors in the public trading market for our common stock that may produce price movements that may or may not comport to macro, industry or company-specific fundamentals, including, without limitation, the sentiment of retail investors (including as may be expressed on financial trading and other social media sites), the amount and status of short interest in our securities, access to margin debt, trading in options and other derivatives on our common stock and any related hedging or other technical trading factors;
- general economic conditions and changes in such conditions specific to our target markets; and
- actions by research analysts, such as if they issue unfavorable commentary or downgrade our common stock or cease publishing reports about us or our business.

The above factors are difficult to forecast, and these, as well as other factors, could materially and adversely affect our quarterly and annual results of operations. Any failure to adjust spending quickly enough to compensate for a revenue shortfall could magnify the adverse impact of this revenue shortfall on our results of operations. Moreover, our results of operations may not meet our announced guidance or the expectations of research analysts or investors, in which case the price of our common stock could decrease significantly. There can be no assurance that we will be able to successfully address these risks.

If research analysts do not publish research about our business or if they issue unfavorable commentary or downgrade our common stock, our stock price and trading volume could decline.

The trading market for our common stock depends in part on the research and reports that research analysts publish about us and our business. The price of our common stock could decline if one or more research analysts downgrade our stock or if those analysts issue other unfavorable commentary or cease publishing reports about us or our business. If one or more of the research analysts ceases coverage of our company or fails to publish reports on us regularly, demand for our common stock could decrease, which could cause our stock price or trading volume to decline.

We may not be able to raise additional capital to execute on our current or future business opportunities on favorable terms, if at all, or without dilution to our stockholders.

We believe that our existing cash and cash equivalents and cash flows from our operating activities will be sufficient to meet our anticipated cash needs for at least the next 12 months. However, we may need to raise additional capital or debt financing to execute on our current or future business strategies, including to:

- provide additional cash reserves to support our operations;
- invest in our research and development efforts;
- expand our operations into new product markets and new geographies;
- acquire complementary businesses, products, services or technologies; or
- otherwise pursue our strategic plans and respond to competitive pressures, including adjustments to our business to mitigate the effects of any tariffs that might apply to us or our industry.

Additionally, while we have not repurchased any shares under the plan, our Board of Directors has authorized the repurchase of up to $200.0 million of our common stock through open market purchases or through structured repurchase agreements with third parties. Such purchases are expected to continue through March 2022 unless otherwise extended or shortened by our Board of Directors.

We do not know what forms of financing, if any, will be available to us. If financing is not available on acceptable terms, if and when needed, our ability to fund our operations, enhance our research and development and sales and marketing functions, develop and enhance our products, respond to unanticipated events and opportunities, or otherwise respond to competitive pressures would be significantly limited. In any such event, our business, financial condition and results of operations could be materially harmed, and we may be unable to continue our operations. Moreover, if we raise additional funds through the issuance of equity or convertible debt securities, the percentage ownership of our stockholders could be significantly diluted, and these newly issued securities may have rights, preferences or privileges senior to those of existing stockholders.

Our affiliated stockholders, executive officers and directors own a significant percentage of our stock, and they may take actions that our other stockholders may not view as beneficial.

Our affiliated stockholders, executive officers and directors collectively own, and will continue to own after giving effect to this offering, a significant percentage of our common stock. This significant concentration of share ownership may adversely affect the trading price for our common stock and the notes because investors often perceive disadvantages in owning stock in companies with controlling stockholders. Also, as a result, these stockholders, acting together, may be able to control our management and affairs and matters requiring stockholder approval, including the election of directors and approval of significant corporate transactions, such as mergers, consolidations or the sale of substantially all of our assets. Consequently, this concentration of ownership may have the effect of delaying or preventing a change in control, including a merger, consolidation or other business combination involving us, or discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control, even if this change in control would benefit our other stockholders.

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

Sales of a substantial number of shares of our common stock in the public market or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. We are unable to predict the effect that sales may have on the prevailing market price of our common stock. All of the outstanding shares of our common stock are eligible for sale in the public market, subject in some cases to agreed limits on sale volumes and the volume limitations and manner of sale requirements of Rule 144 under the Securities Act of 1933, as amended (the “Securities Act”). Sales of stock by our stockholders could have a material adverse effect on the trading price of our common stock.

Certain holders of our securities are entitled to rights with respect to the registration of their shares under the Securities Act. Registration of these shares under the Securities Act would result in the shares becoming freely tradable without restriction under the Securities Act. For instance, in December in 2018, we filed a resale registration statement related to the approximately 7.5 million shares of our common stock that were issued to SunPower upon the closing of the APA transaction. Any sales of securities by SunPower or other stockholders with registration rights could have a material adverse effect on the trading price of our common stock.

Manipulative techniques employed by short sellers may drive down the market price of our common stock.

Short selling is the practice of selling securities that the seller does not own, but rather has borrowed from a third party with the intention of buying identical securities back at a later date to return to the lender. Short sellers hope to profit from a decline in the value of the securities between the sale of the borrowed securities and the purchase of the replacement shares, as the short seller expects to pay less in that purchase than it received in the sale. As it is in the short seller’s best interests for the price of the stock to decline, some short sellers publish, or arrange for the publication of, negative opinions regarding the issuer and its business prospects in order to create negative market momentum and generate profits for themselves after selling a stock short. The use of the Internet, social media, and blogging have allowed short sellers to publicly attack a company’s credibility, strategy and veracity by means of so-called “research reports” that mimic the type of investment analysis performed by legitimate securities research analysts. These short attacks have in the past led to stock price declines and significant selling activity in our common stock. Issuers with limited trading volumes or substantial retail shareholder bases can be particularly susceptible to higher volatility levels, and can be particularly vulnerable to such short attacks.

Short seller publications are not regulated by any governmental, self-regulatory organization or other official authority in the U.S., are not subject to the certification requirements imposed by the SEC in Regulation Analyst Certification and, accordingly, the opinions they express may be based on distortions of actual facts or, in some cases, outright fabrications. In light of the limited risks involved in publishing such information, and the significant profits that can be made from running successful short attacks, short sellers have issued such reports on our stock and will likely continue to issue such reports. Such short-seller attacks may cause our stock to suffer a decline in market price.

We currently do not intend to pay 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 currently do not plan to declare dividends on shares of our common stock in the foreseeable future. In addition, our term loan agreement restricts our ability to pay dividends. Consequently, an investor's only opportunity to achieve a return on its investment in our company will be if the market price of our common stock appreciates and the investor sells its shares at a profit.

Our charter documents and Delaware law could prevent a takeover that stockholders consider favorable and could also reduce the market price of our stock.

Our certificate of incorporation and our bylaws contain provisions that could delay or prevent a change in control of our company. These provisions could also make it more difficult for stockholders to elect directors and take other corporate actions, including effecting changes in our management. These provisions include:

- providing for a classified board of directors with staggered, three-year terms, which could delay the ability of stockholders to change the membership of a majority of our board of directors;
- not providing for cumulative voting in the election of directors, which limits the ability of minority stockholders to elect director candidates;
- authorizing our board of directors to issue, without stockholder approval, preferred stock rights senior to those of common stock, which could be used to significantly dilute the ownership of a hostile acquiror;
- prohibiting stockholder action by written consent, which forces stockholder action to be taken at an annual or special meeting of our stockholders;
- requiring the affirmative vote of holders of at least 66 2/3% of the voting power of all of the then outstanding shares of voting stock, voting as a single class, to amend provisions of our certificate of incorporation relating to the management of our business, our board of directors, stockholder action by written consent, advance notification of stockholder nominations and proposals, forum selection and the liability of our directors, or to amend our bylaws, which may inhibit the ability of stockholders or an acquiror to effect such amendments to facilitate changes in management or an unsolicited takeover attempt;
- requiring special meetings of stockholders may only be called by our chairman of the board, if any, our chief executive officer, our president or a majority of our board of directors, which could delay the ability of our stockholders to force consideration of a proposal or to take action, including the removal of directors; and
- requiring advance notification of stockholder nominations and proposals, which may discourage or deter a potential acquiror from conducting a solicitation of proxies to elect the acquiror's own slate of directors or otherwise attempting to obtain control of us.

In addition, the provisions of Section 203 of the Delaware General Corporate Law may prohibit large stockholders, in particular those owning 15% or more of our outstanding common stock, from engaging in certain business combinations, without approval of substantially all of our stockholders, for a certain period of time.

These provisions in our certificate of incorporation, our bylaws and under Delaware law could discourage potential takeover attempts, reduce the price that investors might be willing to pay for shares of our common stock in the future and result in the market price being lower than it would be without these provisions.

General Risks Related to our Business

Natural disasters, public health events, significant disruptions of information technology systems, data security breaches, or other catastrophic events could adversely affect our operations.

Our worldwide operations could be subject to natural disasters, public health events and other business disruptions, which could harm our future revenue and financial condition and increase our costs and expenses. For example, our corporate headquarters in Fremont, California is located near major earthquake fault lines and our Petaluma, California facility is near fault lines and the sites of recent catastrophic wildfires. We rely on third-party manufacturing facilities including for all product assembly and final testing of our products, which are performed at third-party manufacturing facilities, in China, Mexico and India. There may be conflict or uncertainty in the countries in which we operate, including public health issues (for example, the ongoing COVID-19 pandemic or an outbreak of other contagious diseases or health epidemics), safety issues, natural disasters, fire, disruptions of service from utilities, nuclear power plant accidents or general economic or political factors. Such risks could result in an increase

in the cost of components, production delays, general business interruptions, delays from difficulties in obtaining export licenses for certain technology, tariffs and other barriers and restrictions, longer payment cycles, increased taxes, restrictions on the repatriation of funds and the burdens of complying with a variety of foreign laws, any of which could ultimately have a material adverse effect on our business.

Further, any terrorist attacks, material disruption to our information technology systems or any data security breaches, including due to cyber-attacks, especially any aimed at energy or communications infrastructure suppliers or our cloud-based monitoring service, could hinder or delay the development and sale or performance of our products or otherwise adverse affect us. Such significant disruptions of our, our third party vendors' and/or business partners' information technology systems or data security breaches, including in our remote work environment as a result of COVID-19, could adversely affect our business operations and/or result in the loss, misappropriation, and/or unauthorized access, use or disclosure of, or the prevention of access to, confidential information (including trade secrets or other intellectual property, proprietary business information and personal information), and could result in financial, legal, business and reputational harm to us. Any such event that leads to unauthorized access, use or disclosure of personal information, including personal information regarding our customers, could harm our reputation, compel us to comply with federal and/or state breach notification laws and foreign law equivalents, subject us to mandatory corrective action, require us to verify the correctness of database contents and otherwise subject us to liability under laws and regulations that protect the privacy and security of personal information, which could disrupt our business, result in increased costs or loss of revenue, and/or result in legal and financial exposure. In addition, security breaches and other inappropriate access can be difficult to detect, and any delay in identifying them may further harm us. Moreover, the prevalent use of mobile devices to access confidential information increases the risk of security breaches. While we have implemented security measures to protect our information technology systems and infrastructure, there can be no assurance that such measures will prevent service interruptions or security breaches that could adversely affect our business. In addition, failure to maintain effective internal accounting controls related to security breaches and cybersecurity in general could impact our ability to produce timely and accurate financial statements and subject us to regulatory scrutiny.

In the event that natural disasters, public health epidemics or technical catastrophes were to damage or destroy any part of our facilities or those of our contract manufacturer, destroy or disrupt vital infrastructure systems or interrupt our operations or services for any extended period of time, our business, financial condition and results of operations would be materially and adversely affected.

The threat of global economic, capital markets and credit disruptions, including sovereign debt issues, pose risks to our business.

The threat of global economic, capital markets and credit disruptions pose risks to our business. These risks include slower economic activity and investment in projects that make use of our products and services. These economic developments, particularly decreased credit availability, have in the past reduced demand for solar products. For instance, the European sovereign debt crisis in recent years has caused and may continue to cause European governments to reduce, eliminate or allow to expire government subsidies and economic incentives for solar energy, which could limit our growth or cause our net sales to decline and materially and adversely affect our business, financial condition, and results of operations. These conditions, including reduced incentives, continued decreases in credit availability, as well as continued economic instability, have and may continue to adversely impact our business, financial condition and results of operations as we seek to increase our sales internationally.

If we fail to maintain an effective system of internal controls or are unable to remediate any deficiencies in our internal controls, we might not be able to report our financial results accurately or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act requires us to establish and maintain internal control over financial reporting and disclosure controls procedures. The process of implementing our internal controls and complying with Section 404 of the Sarbanes-Oxley Act has required, and will continue to require, significant attention of management. If we or our independent registered public accounting firm discover a material weakness in our internal controls over financial reporting, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our financial statements and harm our stock price. To the extent any material weaknesses in our internal control over financial reporting are identified, we could be required to expend significant management time and financial resources to correct such material weaknesses or to respond to any resulting regulatory investigations or proceedings.

Our business is subject to potential tax liabilities.

We are subject to income tax, indirect tax or other tax claims by tax agencies in jurisdictions in which we conduct business. Significant judgment is required in determining our worldwide provision for income taxes. Tax laws are dynamic and subject to change as new laws are passed and new interpretations of the law are issued or applied. The Tax Cuts and Jobs Act of 2017 (the "Tax Reform Act") contained many significant changes to the U.S. federal income tax laws, the consequences of which could have a material impact on the value of our deferred tax assets and could increase our future U.S. income tax expense. As additional guidance is issued by the applicable taxing authorities and as new accounting treatment is clarified, we may report additional adjustments in the period if new information becomes available. We have a significant amount of deferred tax assets and a portion of the deferred tax assets related to net operating losses or tax credits could be subject to limitations under the Code Sections 382 or 383, separate return limitation year rules. The limitations could reduce our ability to utilize our net operating losses or tax credits before the expiration of the tax attributes. Tax law changes or the limitations could be material and could materially affect our tax obligations and effective tax rate.

In the ordinary course of our business, there are many transactions and calculations where the ultimate income tax, indirect tax, or other tax determination is uncertain. Although we believe our tax estimates are reasonable, we cannot be certain that the final determination of our tax audits and litigation will not be materially different from that which is reflected in historical tax provisions and accruals. Should additional taxes be assessed as a result of an audit, assessment or litigation, there could be a material adverse effect on our cash, tax provisions and net income (loss) in the period or periods for which that determination is made.

Our business has been and could continue to be affected by seasonal trends and construction cycles.

We have been and could continue to be subject to industry-specific seasonal fluctuations. Historically, the majority of our revenues are from the North American and European regions which experience higher sales of our products in the second, third and fourth quarters and have been affected by seasonal customer demand trends, including weather patterns and construction cycles. The first quarter historically has had softer customer demand in our industry, due to these same factors. In the U.S., customers will sometimes make purchasing decisions towards the end of the year in order to take advantage of tax credits or for budgetary reasons. In addition, construction levels are typically slower in colder and wetter months. In European countries with FiTs, the construction of solar PV systems may be concentrated during the second half of the calendar year, largely due to the annual reduction of the applicable minimum FiT and the fact that the coldest winter months are January through March. Accordingly, our business and quarterly results of operations could be affected by seasonal fluctuations in the future.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

The table below presents details for each of our principal properties:

Facility	Location	Held	Approximate Square Footage	Lease end term
Corporate headquarters	Fremont, U.S.	Leased	40,446	Sep-2025
Customer service support	Boise, U.S.	Leased	24,688	Jan-2027
Administrative office and R&D facility	Petaluma, U.S.	Leased	141,231	Aug-2022
R&D facility	San Jose, U.S	Leased	25,720	Mar-2031
Global support office	India	Leased	67,000	May-2024
Marketing and sales support	France	Leased	2,820	Nov-2026
R&D facility	New Zealand	Leased	23,573	Oct-2025
Marketing and sales support	Australia	Leased	2,931	Dec-2022

Item 3. Legal Proceedings

From time to time, we might be subject to various legal proceedings relating to claims arising out of our operations. The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against us in a reporting period for amounts above management's expectations, our business, results of operations, financial position and cash flows for that reporting period could be materially adversely affected. Except as described in this Item 3, we are not currently involved in any material legal proceedings, the ultimate disposition of which could have a material adverse effect on our operations, financial condition, or cash flows.

Class Action Suit

On or about June 17, 2020, Gregory A. Hurst ("Plaintiff") filed a securities class action lawsuit against our company, our chief executive officer and our chief financial officer (collectively, the "Defendants") in the United States District Court for the Northern District of California on behalf of a class consisting of those individuals who purchased or otherwise acquired our common stock between February 26, 2019 and June 17, 2020 (the "Hurst Action"). The complaint alleges that the Defendants made false and/or misleading statements in violation of Sections 10(b) and 20(a) of the Exchange Act of 1934 and Rule 10b-5 promulgated thereunder. Plaintiff does not quantify any alleged damages in his complaint but, in addition to attorneys' fees and costs, he seeks to recover damages on behalf of himself and other persons who purchased or otherwise acquired our stock during the putative class period at allegedly inflated prices and purportedly suffered financial harm as a result. The court appointed Plaintiff as the Lead Plaintiff on November 30, 2020. On December 7, 2020, the court granted the parties' stipulation setting the schedule for the filing of an amended complaint and Defendants' anticipated motion to dismiss. On January 22, 2021, Plaintiff filed an amended complaint against Defendants asserting substantially the same allegations as the original complaint purportedly on behalf of individuals who purchased or otherwise acquired Enphase common stock between February 26, 2019 and June 16, 2020. We dispute all allegations, intend to defend the matter vigorously and believe the claims are without merit.

Derivative Action Suit

On or about July 10, 2020, Yan Shen filed a verified shareholder derivative lawsuit captioned *Shen v. Kothandaraman, et al.*, in the United States District Court for the Northern District of California against Badrinarayanan Kothandaraman, Eric Branderiz, Mandy Yang, Steven J. Gomo, Benjamin Kortlang, Richard Mora, Thurman J. Rodgers, and Enphase Energy, Inc. (nominal defendant) alleging breaches of fiduciary duties, unjust enrichment, abuse of control, gross mismanagement, waste, and violations of Section 14(a) under the Exchange Act of 1934 (the "Shen Action"). The plaintiff does not quantify any alleged damages in the complaint, but in addition to attorneys' fees and costs, seeks a proposal to strengthen the Board's supervision of operations and shareholder input into the policies and guidelines of the Board; to permit our shareholders to nominate at least three candidates for election to the Board; and to ensure the establishment of effective oversight of compliance with applicable laws, rules, and regulations; and restitution from the individual defendants. On September 24, 2020, the court entered an order staying the derivative action until all motions to dismiss the securities class action are decided.

On October 28, 2020, Benjamin Weber filed a verified shareholder derivative lawsuit captioned *Weber v. Kothandaraman, et al.*, in the United States District Court for the Northern District of California against Badrinarayanan Kothandaraman, Eric Branderiz, Mandy Yang, Steven J. Gomo, Benjamin Kortlang, Richard Mora, Thurman J. Rodgers, and Enphase Energy, Inc. (nominal defendant) containing substantially the same allegations

as those in the Shen Action (the "Weber Action"). On November 20, 2020, the court consolidated the Shen and Weber Actions, ordered them related to the Hurst Action, and ordered the terms of the stay previously entered in the Shen Action to apply to the newly consolidated action under Lead Case No. 3:20-cv-04623-BLF (the "Consolidated Derivative Action") and all subsequently filed derivative lawsuits arising out of substantially the same allegations as the Consolidated Derivative Action.

On November 18, 2020, Anthony R. Buch filed a verified shareholder derivative lawsuit captioned *Buch v. Kothandaraman, et al.*, in the United States District Court for the Northern District of California against Badrinarayanan Kothandaraman, Eric Branderiz, Mandy Yang, Steven J. Gomo, Benjamin Kortlang, Richard Mora, Thurman J. Rodgers, and Enphase Energy, Inc. (nominal defendant) containing substantially the same allegations as those in the Consolidated Derivative Action (the "Buch Action"). On December 2, 2020, the court granted the parties stipulation to consolidate the Buch Action with the Consolidated Derivative Action.

On December 9, 2020, Frank Caggiano filed a verified shareholder derivative lawsuit captioned *Caggiano v. Kothandaraman, et al.*, in the United States District Court for the Northern District of California against Badrinarayanan Kothandaraman, Eric Branderiz, Mandy Yang, Steven J. Gomo, Benjamin Kortlang, Richard Mora, Thurman J. Rodgers, and Enphase Energy, Inc. (nominal defendant) containing substantially the same allegations as those in the Consolidated Derivative Action (the "Caggiano Action"). On December 24, 2020, the court granted the parties stipulation to consolidate the Caggiano Action with the Consolidated Derivative Action.

We dispute the allegations in each of the above-reference derivative lawsuits, and we intend to defend the matter vigorously and believe the claims are without merit.

Books and Records Suit

On September 15, 2020, Stanley Olochwoszcz filed a lawsuit against our company in the Court of Chancery of the State of Delaware pursuant to Section 220 of the Delaware General Corporation Law, 8 Del. C. § 220, to compel the company to permit Mr. Olochwoszcz to inspect certain of our books and records (the "Section 220 Litigation"). The complaint alleges that our company has wrongfully refused to produce documents in response to Mr. Olochwoszcz's demand and seeks a court order compelling us to permit inspection and copying of certain of our books and records, as well as costs and expenses, including attorneys' fees, related to the lawsuit. We have also received similar demands for inspection of our books and records from four other company stockholders.

On February 4, 2021, Mr. Olochwoszcz and three other demanding stockholders—Teamsters Local 677 Health Services & Insurance Plan, Saratoga Advantage Trust Small Capitalization Portfolio and Leo Schumacher—filed in the Section 220 Litigation a stipulation to intervene on a limited basis. The parties agreed to the limited intervention, a confidentiality agreement, and a stay of the Section 220 Litigation in connection with a document production agreement between the Company and four of the five demanding stockholders. Pursuant to the stay agreement, the Section 220 Litigation will be stayed to allow the parties to explore the resolution of the demands.

The pending lawsuits and any other related lawsuits are subject to inherent uncertainties, and the actual defense and disposition costs will depend upon many unknown factors. The outcome of the pending lawsuits and any other related lawsuits is necessarily uncertain. We could be forced to expend significant resources in the defense of the pending lawsuits and any additional lawsuits, and we may not prevail. In addition, we may incur substantial legal fees and costs in connection with such lawsuits.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Common Stock

Our common stock, $0.00001 par value per share, has been traded on The Nasdaq Global Market under the symbol "ENPH" since March 30, 2012.

Holders

As of February 8, 2021, there were approximately 19 holders of record of our common stock, one of which was Cede & Co., a nominee for Depository Trust Company ("DTC"). All of the shares of our common stock held by brokerage firms, banks and other financial institutions as nominees for beneficial owners are deposited into participant accounts at DTC and are therefore considered to be held of record by Cede & Co. as one stockholder.

Dividend Policy

We have never paid any cash dividends on our common stock. We currently anticipate that we will retain any available funds to invest in the growth and operation of our business and we do not anticipate paying any cash dividends in the foreseeable future.

Recent Sales of Unregistered Securities and Issuer Repurchases of Securities

Except as previously reported in our quarterly reports on Form 10-Q and current reports on Form 8-K filed with the SEC during the year ended December 31, 2020, there were no unregistered sales of equity securities by us during the year ended December 31, 2020.

In April 2020, our board of directors authorized the repurchase of up to $200.0 million of our common stock, exclusive of brokerage commissions. Purchases will be completed from time to time in the open market or through structured repurchase agreements with third parties. Such purchases are expected to continue through March 2022 unless otherwise extended or shortened by our board of directors. The timing and amount of repurchases will depend on a variety of factors, including the price of our common stock compared to the intrinsic value, alternative investment opportunities, corporate and regulatory requirements and market conditions. As of December 31, 2020, we have not repurchased any shares under this repurchase program.

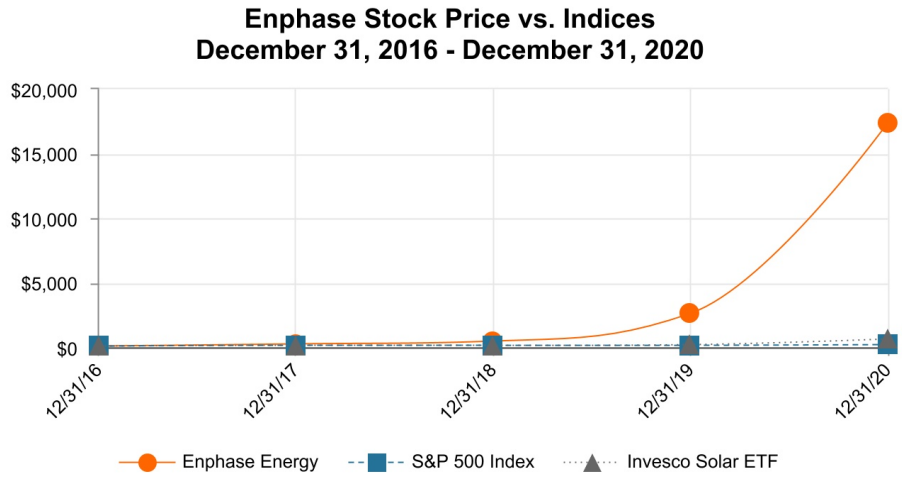
The following table provides information about our purchases of our common stock during the three months ended December 31, 2020 (in thousands, except per share amounts):

Period Ended	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Programs	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Programs
October 2020	—	$ —	—	$ 200,000
November 2020	—	$ —	—	$ 200,000
December 2020	—	$ —	—	$ 200,000
Total	—		—	

Stock Performance Graph

This section is not "soliciting material" and is not deemed "filed" for purposes of Section 18 of the Securities and Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act or the Exchange Act, regardless of any general incorporation language in such filing.

The graph depicted below shows a comparison of cumulative total stockholder returns for our common stock, the S&P 500 Index and the Invesco Solar ETF for the period from December 31, 2016 to December 31, 2020. An investment of $100 is assumed to have been made in our common stock and in each index on December 31, 2016, all dividends were reinvested, and the relative performance of the investments are tracked through December 31, 2020. The information shown is historical and stockholder returns over the indicated period should not be considered indicative of future stockholder returns or future performance.



	December 31, 2016	December 31, 2017	December 31, 2018	December 31, 2019	December 31, 2020
Enphase Energy, Inc.	$ 100	$ 239	$ 468	$ 2,587	$ 17,373
S&P 500 Index	$ 100	$ 119	$ 112	$ 144	$ 168
Invesco Solar ETF	$ 100	$ 152	$ 112	$ 187	$ 623

Item 6. Selected Consolidated Financial Data

The information set forth below for the five years ended December 31, 2020 is not necessarily indicative of results of future operations, and should be read in conjunction with Part II, Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," and the consolidated financial statements and related notes thereto included in Part II, Item 8. "Financial Statements and Supplementary Data," of this Annual Report on Form 10-K to fully understand the factors that may affect the comparability of the information presented below.'

We adopted Accounting Standards Codification ("ASC") No. 606, "Revenue Recognition" ("ASC 606" or "Topic 606") and applied the modified retrospective method to all contracts that were not completed as of January 1, 2018. Financial data for the fiscal years ended December 31, 2017 and 2016 have not been adjusted to reflect the adoption of ASC 606.

	Years Ended December 31,				
	2020	2019	2018	2017	2016
	(in thousands, except per share data)				
Consolidated Statement of Operations Data:					
Net revenues	$ 774,425	$ 624,333	$ 316,159	$ 286,166	$ 322,591
Cost of revenues	428,444	403,088	221,714	230,123	264,583
Gross profit	345,981	221,245	94,445	56,043	58,008
Operating expenses:					
Research and development	55,921	40,381	32,587	33,157	50,703
Sales and marketing	52,927	36,728	27,047	23,126	38,810
General and administrative	50,694	38,808	29,086	22,221	27,418
Restructuring charges	—	2,599	4,129	16,917	3,777
Total operating expenses	159,542	118,516	92,849	95,421	120,708
Income (loss) from operations	186,439	102,729	1,596	(39,378)	(62,700)
Other expense, net					
Interest income	2,156	2,513	1,058	276	75
Interest expense	(21,001)	(9,691)	(10,693)	(8,212)	(2,848)
Other income (expense), net	(3,836)	(5,437)	(2,190)	1,973	(514)
Change in fair value of derivatives	(44,348)	—	—	—	—
Total other expense, net	(67,029)	(12,615)	(11,825)	(5,963)	(3,287)
Income (loss) before income taxes	119,410	90,114	(10,229)	(45,341)	(65,987)
Income tax benefit (provision)	14,585	71,034	(1,398)	149	(1,475)
Net income (loss)	$ 133,995	$ 161,148	$ (11,627)	$ (45,192)	$ (67,462)
Net income (loss) per share:					
Basic	$ 1.07	$ 1.38	$ (0.12)	$ (0.54)	$ (1.34)
Diluted	$ 0.95	$ 1.23	$ (0.12)	$ (0.54)	$ (1.34)
Shares used in per share calculation:					
Basic	125,561	116,713	99,619	82,939	50,519
Diluted	141,918	131,644	99,619	82,939	50,519

	As of December 31,				
	2020	2019	2018	2017	2016
	(in thousands)				
Consolidated Balance Sheet Data:					
Cash, cash equivalents and restricted cash	$ 679,379	$ 296,109	$ 106,237	$ 29,144	$ 17,764
Total assets	1,200,102	713,223	339,937	169,147	163,576
Warranty obligations	45,913	37,098	31,294	29,816	31,414
Debt	330,865	105,543	109,783	49,751	33,900
Total stockholders' equity	483,993	272,212	7,776	(9,126)	1,300
Additional Data:					
Working capital	$ 399,021	$ 300,346	$ 75,141	$ 38,705	$ 35,092
Gross margin percentage	44.7 %	35.4 %	29.9 %	19.6 %	18.0 %

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

Forward-Looking Statements

The following discussion and analysis of our financial condition and results of operations should be read together with our consolidated financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements reflecting our current expectations and involves risks and uncertainties. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "should," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend," "potential" or "continue" or the negative of these terms or other comparable terminology. Such statements, include but are not limited to statements regarding our expectations as to future financial performance, expense levels, liquidity sources, the capabilities and performance of our technology and products and planned changes, timing of new product releases, our business strategies, including anticipated trends, growth and developments in markets in which we target, the anticipated market adoption of our current and future products, performance in operations, including component supply management, product quality and customer service, risks related to the ongoing COVID-19 pandemic and the anticipated benefits and risks relating to the transaction with SunPower Corporation. Our actual results and the timing of events may differ materially from those discussed in our forward-looking statements as a result of various factors, including those discussed below and those discussed in the section entitled "Risk Factors" included in Part I, Item 1A of this Annual Report on Form 10-K.

Business Overview and 2020 Highlights

We are a global energy technology company. We deliver smart, easy-to-use solutions that manage solar generation, storage and communication on one single platform. We revolutionized the solar industry with our microinverter technology and we produce a fully integrated solar-plus-storage solution. To date, we have shipped more than 32 million microinverters, and approximately 1.4 million Enphase residential and commercial systems have been deployed in more than 130 countries.

We sell our solutions primarily to distributors who resell them to solar installers. We also sell directly to large installers, OEMs, strategic partners and homeowners. Our revenue in the fourth quarter of 2019 and first quarter of 2020 was positively impacted by the scheduled phase-down of the investment tax credit for solar projects under Section 48(a) (the "ITC") of the Internal Revenue Code of 1986, as amended (the "Code").

The Renewable Energy and Job Creation Act of 2008 provided a 30% federal tax credit for residential and commercial solar installations through December 31, 2019, which was reduced to a tax credit of 26% for any solar energy system that began construction during 2020 through December 31, 2022, and 22% thereafter to December 31, 2023 before being reduced to 10% for commercial installations and 0% for residential installations beginning on January 1, 2024. As a result, several of our customers explored opportunities to purchase products in 2019 to take advantage of safe harbor guidance from the IRS published in June 2018, allowing them to preserve the historical 30% investment tax credit for solar equipment purchased in 2019 for solar projects that are completed after December 31, 2019. Safe harbor prepayments from customers in the fourth quarter of 2019 resulted in $44.5 million of revenue recognized in the first quarter of 2020 when we delivered the product.

On March 9, 2020, we issued $320.0 million aggregate principal amount of our Convertible Senior Notes due 2025 (the "Notes due 2025") in a private placement. The Notes due 2025 are general unsecured obligations and bear interest at a rate of 0.25% per year, payable semi-annually on March 1 and September 1 of each year, beginning on September 1, 2020. The Notes due 2025 will mature on March 1, 2025, unless earlier repurchased by us or converted at the option of the holders. Further information relating to the Notes due 2025 may be found in Note 11, "Debt," of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K and below under the section titled "- Liquidity and Capital Resources."

On March 26, 2020, the Office of the United States Trade Representative (the "USTR") announced certain exclusion requests related to tariffs on Chinese imported microinverter products that fit the dimensions and weight limits within a Section 301 Tariff exclusion under U.S. note 20(ss)(40) to subchapter III of chapter 99 of the Harmonized Tariff Schedule of the United States (the "Tariff Exclusion"). The Tariff Exclusion applies to covered products under the China Section 301 Tariff Actions ("Section 301 Tariffs") taken by the USTR exported from China to the United States from September 24, 2018 until August 7, 2020. Accordingly, we sought refunds totaling approximately $38.9 million plus approximately $0.6 million accrued interest on tariffs previously paid from September 24, 2018 to March 31, 2020 for certain microinverters that qualify for the Tariff Exclusion. The refund request was subject to review and approval by the U.S. Customs and Border Protection; therefore, we assessed that the probable loss recovery for the year ended December 31, 2020 is equal to the approved refund requests available to us prior to issuance of the financial statements on February 12, 2021.

As of December 31, 2020, we have received $24.8 million of tariff refunds and accrued for the remaining $14.7 million tariff refunds that were approved, however, not yet received on or before December 31, 2020. For the year ended December 31, 2020, we recorded $38.9 million as a reduction to cost of revenues in our consolidated statements of operations as the approved refunds relate to paid tariffs previously recorded to cost of revenues; therefore, we recorded the corresponding approved tariff refunds as credits to cost of revenues in the current period. For the year ended December 31, 2020, we recorded the $0.6 million accrued interest as interest income in our consolidated statement of operations. The tariff refund receivable of $14.7 million is recorded as a reduction of accounts payable to Flex Ltd. and affiliates ("Flex"), our manufacturing partner and the importer of record who will first receive the tariff refunds, on the consolidated balance sheet as of December 31, 2020.

The Tariff Exclusion expired on August 7, 2020 and those microinverter products now are subject to tariffs. We continue to pay Section 301 Tariffs on our storage and communication products and other accessories imported from China which are not subject to the Tariff Exclusion.

In December 2020, holders exchanged $43.9 million in aggregate principal amount of the Notes due 2024, the principal amount of which was repaid in cash. Of the $43.9 million in aggregate principal amount, $38.5 million in aggregate principal amount was settled pursuant to an exchange agreement entered into in December 2020 with certain holders of Notes due 2024. We also issued approximately 1.9 million shares of our common stock to the holders in December 2020 for the conversion value in excess of the principal amount of the Notes due 2024, which were fully offset by shares received from our exercise of the associated note hedging arrangements. Refer to Note 11. Debt, of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information. In connection with the settlement of the Notes due 2024, we entered into partial unwind agreements to unwind number of warrants exercisable under our note hedging arrangements and to issue approximately 2.1 million warrants on a net basis, resulting in a net issuance of approximately 1.9 million shares of our common stock in connection with the exchange of the Notes due 2024.

Impact of COVID-19

The ongoing COVID-19 pandemic continues to cause disruptions and uncertainties, including in the core markets in which we operate. The COVID-19 pandemic has significantly curtailed the movement of people, goods and services and had a notable impact on general economic conditions including but not limited to the temporary closures of many businesses, "shelter in place" orders and other governmental regulations, and reduced consumer spending. The most significant near-term impacts of COVID-19 on our financial performance are a decline in sales orders as future residential and commercial system owners are canceling sales meetings with system installation professionals or postponing system installations. As the purchase of new solar energy management solutions declines as part of the impact of COVID-19 on consumer spending, many businesses through which we distribute our products are working at limited operational capacity. The extent of the impact of COVID-19 on our future operational and financial performance will depend on various future developments, including the duration and spread of the outbreak, impact on our employees, impact on our customers, effect on our sales cycles or costs, and effect on our supply chain and vendors, all of which are uncertain and cannot be predicted, but which could have a material adverse effect on our business, results of operations or financial condition. Further information relating to the risks and uncertainties related to the ongoing COVID-19 pandemic may be found in Part I, Item 1A "Risk Factors" of this Annual Report on Form 10-K.

Components of Consolidated Statements of Operations

Net Revenues

We primarily generate net revenues from sales of our microinverter solutions and related accessories, which include our storage systems, our Envoy communications gateway and Enlighten cloud-based monitoring service as well as other accessories.

Our revenue is affected by changes in the volume and average selling prices of our solutions and related accessories, supply and demand, sales incentives, and competitive product offerings. Our revenue growth is dependent on our ability to compete effectively in the marketplace by remaining cost competitive, developing and introducing new products that meet the changing technology and performance requirements of our customers, the diversification and expansion of our revenue base, and our ability to market our products in a manner that increases awareness for microinverter technology and differentiates us in the marketplace.

Cost of Revenues and Gross Profit

Cost of revenues is comprised primarily of product costs, warranty, manufacturing personnel and logistics costs, freight costs, depreciation and amortization of test equipment and hosting services costs. Our product costs are impacted by technological innovations, such as advances in semiconductor integration and new product introductions, economies of scale resulting in lower component costs, and improvements in production processes and automation. Certain costs, primarily personnel and depreciation and amortization of test equipment, are not directly affected by sales volume.

We outsource our manufacturing to third-party contract manufacturers and generally negotiate product pricing with them on a quarterly basis. We believe our contract manufacturing partners have sufficient production capacity to meet the anticipated demand for our products for the foreseeable future. However, shortages in the supply of certain key raw materials could adversely affect our ability to meet customer demand for our products. We contract with third parties, including one of our contract manufacturers, to serve as our logistics providers by warehousing and delivering our products in the U.S., Europe and Asia.

Gross profit may vary from quarter to quarter and is primarily affected by our average selling prices, product cost, product mix, customer mix, tariff refunds, warranty costs and sales volume fluctuations resulting from seasonality.

Operating Expenses

Operating expenses consist of research and development, sales and marketing, general and administrative and restructuring expenses. Personnel-related costs are the most significant component of each of these expense categories other than restructuring expense and include salaries, benefits, payroll taxes, sales commissions, incentive compensation and stock-based compensation.

Research and development expense include personnel-related expenses, third-party design and development costs, testing and evaluation costs, depreciation expense and other indirect costs. Research and development employees are primarily engaged in the design and development of power electronics, semiconductors, powerline communications, networking and software functionality, and storage. We devote substantial resources to research and development programs that focus on enhancements to, and cost efficiencies in, our existing products and timely development of new products that utilize technological innovation to drive down product costs, improve functionality, and enhance reliability. We intend to continue to invest appropriate resources in our research and development efforts because we believe they are critical to maintaining our competitive position.

Sales and marketing expense include personnel-related expenses, travel, trade shows, marketing, customer support and other indirect costs. We expect to continue to make the necessary investments to enable us to execute our strategy to increase our market penetration geographically and enter into new markets by expanding our customer base of distributors, large installers, OEMs and strategic partners. We currently offer solutions targeting the residential and commercial markets in the U.S., Canada, Mexico, Central American markets, Europe, Australia, New Zealand, India and certain other Asian markets. We expect to continue to expand the geographic reach of our product offerings and explore new sales channels in addressable markets in the future.

General and administrative expense include personnel-related expenses for our executive, finance, human resources, information technology and legal organizations, facilities costs, and fees for professional services. Fees for professional services consist primarily of outside legal, accounting and information technology consulting costs.

Restructuring charges are the net charges resulting from restructuring initiatives implemented in 2018 through 2019 (the "2018 Plan") to improve operational performance and reduce overall operating expenses. Under the 2018 Plan, costs included in restructuring primarily consisted of employee severance and one-time benefits, workforce reorganization charges, non-cash charges related to impairment of property and equipment, and the establishment of lease loss reserves. See Note 10. "Restructuring," of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Other Expense, Net

Other expense, net primarily consists of interest expense and fees under our convertible notes and term loans, non-cash interest expense related to the accretion of debt discount and amortization of deferred financing costs, and non-cash charge recognized for the change in fair value of our convertible notes embedded derivative and warrants. Other expense, net also includes interest income on our cash balance, accrued interest on tariffs previously paid and approved for refund, and gains or losses upon conversion of foreign currency transactions into U.S. dollars.

Income Tax Benefit (Provision)

We are subject to income taxes in the countries where we sell our products. Historically, we have primarily been subject to taxation in the U.S. because we have sold the majority of our products to customers in the U.S. As we have expanded the sale of products to customers outside the U.S., we have become subject to taxation based on the foreign statutory rates in the countries where these sales took place. As sales in foreign jurisdictions increase in the future, our effective tax rate may fluctuate accordingly. We regularly assess the ability to realize deferred tax assets based on the weight of all available evidence, including such factors as the history of recent earnings and expected future taxable income on a jurisdiction by jurisdiction basis. During the fourth quarter of fiscal year 2019, after considering these factors, we determined that the positive evidence overcame any negative evidence, primarily due to cumulative income in recent years, and the expectation of sustained profitability in future periods and concluded that it was more likely than not that the US federal and state deferred tax assets were realizable. As a result, we released the valuation allowance against all of the U.S. federal and state deferred tax assets during the fourth quarter of fiscal year 2019.

Summary Consolidated Statements of Operations

The following table sets forth a summary of our consolidated statements of operations for the periods presented (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Net revenues	$ 774,425	$ 624,333	$ 316,159
Cost of revenues	428,444	403,088	221,714
Gross profit	345,981	221,245	94,445
Operating expenses:			
Research and development	55,921	40,381	32,587
Sales and marketing	52,927	36,728	27,047
General and administrative	50,694	38,808	29,086
Restructuring charges	—	2,599	4,129
Total operating expenses	159,542	118,516	92,849
Income from operations	186,439	102,729	1,596
Other expense, net			
Interest income	2,156	2,513	1,058
Interest expense	(21,001)	(9,691)	(10,693)
Other expense, net	(3,836)	(5,437)	(2,190)
Change in fair value of derivatives	(44,348)	—	—
Total other expense, net	(67,029)	(12,615)	(11,825)
Income (loss) before income taxes	119,410	90,114	(10,229)
Income tax benefit (provision)	14,585	71,034	(1,398)
Net income (loss)	$ 133,995	$ 161,148	$ (11,627)

Results of Operations

In this section, we discuss the results of our operations for the year ended December 31, 2020 compared to the year ended December 31, 2019. For a discussion of the year ended December 31, 2019 compared to the year ended December 31, 2018, please refer to Part II, Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations" in our Annual Report on Form 10-K for the year ended December 31, 2019.

Net Revenues

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
Net revenues	$ 774,425	$ 624,333	$ 150,092	24 %

Net revenues increased by 24% or $150.1 million for the year ended December 31, 2020, as compared to the same period in 2019, primarily due to the 11% increase in microinverter unit volume shipped primarily as a result of business growth in the U.S., higher microinverter units shipped in the first quarter of 2020 as our customers took advantage of safe harbor guidance from the IRS and shipments of our Enphase Encharge storage systems to customers in North America. We sold approximately 6.8 million microinverter units in the year ended December 31, 2020, as compared to approximately 6.2 million microinverter units in the same period in 2019.

Cost of Revenues and Gross Profit

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
Cost of revenues	$ 428,444	$ 403,088	$ 25,356	6 %
Gross profit	345,981	221,245	124,736	56 %
Gross margin	44.7 %	35.4 %		

Cost of revenues increased by 6% or $25.4 million for the year ended December 31, 2020, as compared to the same period in 2019, primarily due to higher volume of microinverter units sold and shipments of our Enphase Encharge storage systems primarily as a result of business growth in the U.S., as well as higher units shipped in the first quarter of 2020 as our customers took advantage of safe harbor guidance from the IRS, partially offset by the $38.9 million in refunds approved for tariffs mentioned above and a decrease in the unit cost of our products as a result of our cost reduction efforts.

Gross margin increased by 9.3 percentage points for the year ended December 31, 2020, as compared to the same period in 2019. The increase in gross margin was primarily attributable to the $38.9 million in refunds approved for tariffs mentioned above as well as our overall pricing and cost management efforts, including the transition of our contract manufacturing to Mexico to mitigate tariffs.

Research and Development

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
Research and development	$ 55,921	$ 40,381	$ 15,540	38 %
Percentage of net revenues	7 %	6 %		

Research and development expense increased by 38% or $15.5 million for the year ended December 31, 2020, as compared to the same period in 2019. The increase was primarily due to $13.6 million higher personnel-related expenses and $2.5 million of outside consulting, engineering services and equipment associated with the innovation and development, introduction and qualification of new products, partially offset by a $0.6 million reduction in travel expenditure as we implemented travel restrictions prohibiting all non-essential business travel. The increase in personnel-related expenses was primarily due to hiring employees in New Zealand, India and US, increasing total compensation costs. The amount of research and development expenses may fluctuate from period to period due to differing levels and stages of development activity.

Sales and Marketing

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
Sales and marketing	$ 52,927	$ 36,728	$ 16,199	44 %
Percentage of net revenues	7 %	6 %		

Sales and marketing expense increased by 44% or $16.2 million for the year ended December 31, 2020 as compared to the same period in 2019. The increase was primarily due to $11.4 million of higher personnel-related expenses as a result of our efforts to improve customer experience by hiring additional employees to reduce the average call wait time for customers, as well as support our business growth in the U.S. and international expansion in Europe, and $5.5 million for a combination of higher marketing expenses, professional services, advertising costs and facilities costs to enable business growth, partially offset by $0.7 million reduction in travel expenditure as we implemented travel restrictions prohibiting all non-essential business travel and converting where possible our in-person sales, trainings and marketing events to virtual-only due to COVID-19.

General and Administrative

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
General and administrative	$ 50,694	$ 38,808	$ 11,886	31 %
Percentage of net revenues	7 %	6 %		

General and administrative expense increased 31% or $11.9 million for the year ended December 31, 2020, as compared to the same period in 2019. The increase was primarily due to $7.9 million of higher personnel-related expenses, $2.8 million of other operational, technological and facilities costs to support scalability of our business growth and $1.6 million of higher legal and professional services, partially offset by $0.4 million reduction in travel expenditures as we implemented travel restrictions prohibiting all non-essential business travel in response to COVID-19.

Restructuring Charges

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
estructuring charges	$ $—	2,599	(2,599)	(100)

We completed our 2018 restructuring plan in 2019, hence we incurred no restructuring expenses during the year ended December 31, 2020. Restructuring charges for 2019 primarily include $1.6 million in cash-based severance and related benefits and $1.1 million in non-cash charges for impaired assets, partially offset by a $0.1 million reduction in lease loss reserves due to adoption of ASC 842 Leases.

Other Expense, Net

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
Interest income	$ 2,156	$ 2,513	$ (357)	(14)%
Interest expense	(21,001)	(9,691)	(11,310)	117 %
Other expense, net	(3,836)	(5,437)	1,601	(29)%
Change in fair value of derivatives	$ (44,348)	$ —	$ (44,348)	**
Total other expense, net	$ (67,029)	$ (12,615)	$ (54,414)	(431)%

** Not meaningful

Interest income of $2.2 million for the year ended December 31, 2020 decreased, as compared to $2.5 million in the same period in 2019, primarily due to significant decline in interest rates earned on cash balances, partially offset by a higher average cash balance earning interest in the year ended December 31, 2020 compared to the same period in 2019 and approximately $0.6 million accrued interest on refunds for tariffs previously paid from September 24, 2018 to March 31, 2020 for certain microinverters that qualify for the Tariff Exclusion.

Interest expense of $21.0 million for the year ended December 31, 2020 primarily includes $20.2 million related to the accretion of the debt discount and debt issuance cost as well as coupon interest incurred associated with our Notes due 2024 and Notes due 2025, $0.5 million of interest expense related to long-term financing receivable recorded as debt and interest expense of $0.2 million related to coupon interest incurred and amortization of debt issuance costs associated with our Notes due 2023. Interest expense of $9.7 million for the year ended December 31, 2019 primarily includes $4.6 million related to the coupon interest incurred, debt discount and amortization of debt issuance costs with our Notes due 2024, interest expense of $2.7 million related to the repayment of our term loan, interest expense of $1.5 million related to coupon interest incurred and amortization of debt issuance costs associated with Notes due 2023, and $0.9 million of interest expense related to long-term financing receivable recorded as debt.

Other expense, net of $3.8 million for the year ended December 31, 2020 primarily related to $3.0 million non-cash loss on settlement of $43.9 million aggregate principal amount of the Notes due 2024 and $0.5 million net loss related to foreign currency exchange and remeasurement. Other expense, net of $5.4 million for the year ended December 31, 2019, primarily relates to the $6.0 million fees paid for the repurchase and exchange of our Notes due 2023, partially offset by $0.6 million net gain related to foreign currency exchange and remeasurement.

Change in fair value of derivatives of $44.3 million for the year ended December 31, 2020 primarily includes the charge recognized for the change in fair value of our convertible notes embedded derivative and warrants of $47.6 million and $24.7 million, respectively. This charge is partially offset by a gain recognized for the change in fair value of our convertible notes hedge of $28.0 million. See Note 11, “Debt,” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Income Tax Benefit (Provision)

	Years Ended December 31,		Change in	
	2020	2019	$	%
	(In thousands, except percentages)			
Income tax benefit	$ 14,585	$ 71,034	$ (56,449)	(79)%

The income tax benefit of $14.6 million for the year ended December 31, 2020, decreased compared to the income tax benefit of $71.0 million in 2019, primarily due to the valuation allowance release for the year ended December 31, 2019, partially offset by excess tax benefits related to stock-based compensation tax deduction for year ended December 31, 2020. See Note 15. “Income Taxes,” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Liquidity and Capital Resources

Sources of Liquidity

As of December 31, 2020, we had $399.0 million in working capital, including cash and cash equivalents of $679.4 million, of which approximately $659.2 million were held in the U.S. Our cash and cash equivalents primarily consist of U.S. government money market mutual funds and both interest-bearing and non-interest-bearing deposits, with the remainder held in various foreign subsidiaries. We consider amounts held outside the U.S. to be accessible and have provided for the estimated U.S. income tax liability associated with our foreign earnings. However, our liquidity may be negatively impacted if sales decline significantly for an extended period due to the impact of the ongoing COVID-19 pandemic. While we have experienced delays in collections from certain customers due to COVID-19, we believe we will be able to meet our anticipated cash needs for at least the next 12 months. Further, the extent to which the ongoing COVID-19 pandemic and our precautionary measures in response thereto impact our business and liquidity will depend on future developments, which are uncertain and cannot be precisely predicted at this time.

Convertible Notes

Notes due 2023. As of December 31, 2020, we had $5.0 million aggregate principal amount of our Notes due 2023 outstanding. The Notes due 2023 are general unsecured obligations and bear interest at a rate of 4.00% per year, payable semi-annually on February 1 and August 1 of each year. The Notes due 2023 will mature on August 1, 2023, unless earlier repurchased by us or converted at the option of the holders.

Notes due 2024. As of December 31, 2020, we had $88.1 million aggregate principal amount of our Notes due 2024 outstanding. The Notes due 2024 are general unsecured obligations and bear interest at a rate of 1.0% per year, payable semi-annually on June 1 and December 1 of each year. The Notes due 2024 will mature on June 1, 2024, unless earlier repurchased by us or converted at the option of the holders at a conversion price of $20.50 per share.

The Notes due 2024 may be converted on any day prior to the close of business on the business day immediately preceding December 1, 2023, in multiples of $1,000 principal amount, at the option of the holder only under any of the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2019 (and only during such calendar quarter), if the last reported sale price of the our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to $26.6513 (130% of the conversion price) on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the “measurement period”) in which the “trading price” (as defined in the relevant indenture) per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the our common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate events. Upon conversion of any of the notes, we will pay or deliver, as the case may be, cash, shares of common stock or a combination of cash and common stock, at our election.

From April 1, 2020 through March 31, 2021, the Notes due 2024 may be converted because the last reported sale price of our common stock for at least 20 trading days during a period of 30 consecutive trading days ending on March 31, 2020, June, 30, 2020, September 30, 2020 and December 31, 2020 was greater than or equal to $26.6513 on each applicable trading day. Upon conversion of any of the notes, we will pay or deliver, as the case may be, cash, shares of common stock or a combination of cash and common stock, at our election.

In connection with the offering of the Notes due 2024, we entered into privately-negotiated convertible note hedge transactions in order to reduce the potential dilution to our common stock upon any conversion of the Notes due 2024. Also, concurrently with the offering of the Notes due 2024, we entered into privately-negotiated warrant transactions whereby we issued warrants to effectively increase the overall conversion price of Notes due 2024 from $20.5010 to $25.2320.

From January 1, 2021 through February 12, 2021, we've received the request for conversion of approximately $61.5 million in principal amount of our Notes due 2024, of which we have elected to settle the aggregate principal amount of the Notes due 2024 in a combination of cash and any excess in shares of our common stock in accordance with the applicable indenture. Such conversion will be settled in March 2021. We may purchase shares under the convertible note hedge to the extent shares of our common stock are issued for the additional conversion amount due over the principal amount. From January 1, 2021 through February 12, 2021, we had not purchased any shares under the convertible note hedge and the warrants had not been exercised and remain outstanding. If we receive additional request for conversion from the holders of the Notes due 2024 to exercise their right to convert the debt to equity, we have asserted our intent and ability to settle the remaining $26.6 million aggregate principal amount of the Notes due 2024 in cash.

Notes due 2025. As of December 31, 2020, we had $320.0 million aggregate principal amount of our Notes due 2025 outstanding. The Notes due 2025 are general unsecured obligations and bear interest at a rate of 0.25% per year, payable semi-annually on March 1 and September 1 of each year, beginning on September 1, 2020. The Notes due 2025 will mature on March 1, 2025, unless earlier repurchased by us or converted at the option of the holders at a conversion price of $81.54 per share.

The Notes due 2025 may be converted on any day prior to the close of business on the business day immediately preceding September 1, 2024, in multiples of $1,000 principal amount, at the option of the holder only under any of the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2020 (and only during such calendar quarter), if the last reported sale price of the our common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to $106.00 (130% of the conversion price) on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the "trading price" (as defined in the relevant indenture) per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the our common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate events. On and after September 1, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date of March 1, 2025, holders may convert their notes at any time, regardless of the foregoing circumstances. Upon the occurrence of a fundamental change (as defined in the relevant indenture), holders may require the Company to repurchase all or a portion of their Notes due 2025 for cash at a price equal to 100% of the principal amount of the notes to be repurchased plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

From January 1, 2021 through March 31, 2021, the Notes due 2025 may be converted because the last reported sale price of our common stock for at least 20 trading days during a period of 30 consecutive trading days ending on December 31, 2020 was greater than or equal to $106.00 on each applicable trading day. Upon conversion of any of the notes, we will pay or deliver, as the case may be, cash, shares of common stock or a combination of cash and common stock, at our election.

In connection with the offering of the Notes due 2025, we entered into privately-negotiated convertible note hedge transactions in order to reduce the potential dilution to our common stock upon any conversion of the Notes due 2025. The total cost of the convertible note hedge transactions was approximately $89.1 million. Also, concurrently with the offering of the Notes due 2025, we entered into privately-negotiated warrant transactions whereby we issued warrants to acquire shares of our common stock at a strike price of $106.94 rather than the Notes due 2025 conversion price of $81.54. We received approximately $71.6 million from the sale of the warrants.

As of February 12, 2021, the Notes due 2025 were not converted into equity, therefore, we had not purchased any shares under the convertible note hedge and the warrants had not been exercised and remain outstanding. If holders of the Notes due 2025 are able to convert the debt to equity, and exercise that right, we have asserted our intent and ability to settle the $320.0 million aggregate principal amount of the Notes due 2025 in cash.

Cash from operations could be affected by various risks and uncertainties, including, but not limited to, the effects of COVID-19 and other risks detailed in the 'risk factor' section in Part I, Item 1A "Risk Factors" of this Annual Report on Form 10-K. We believe that our cash flow from operations with existing cash and cash equivalents will be sufficient to meet our anticipated cash needs for at least the next 12 months and thereafter for the foreseeable future. Our future capital requirements will depend on many factors including our growth rate, the timing and extent of spending to support development efforts, the expansion of sales and marketing activities, the introduction of new and enhanced products, the costs to acquire or invest in complementary businesses and technologies, the costs to ensure access to adequate manufacturing capacity, the continuing market acceptance of our products and

macroeconomic events such as the impacts from COVID-19. We may also choose to seek additional equity or debt financing. In the event that additional financing is required from outside sources, we may not be able to raise it on terms acceptable to us or at all. If we are unable to raise additional capital when desired, our business, operating results, and financial condition may be adversely affected.

Stock Repurchase Program

In April 2020, our board of directors authorized the repurchase of up to $200.0 million of our common stock, exclusive of brokerage commissions. Purchases will be completed from time to time in the open market or through structured repurchase agreements with third parties. Such purchases are expected to continue through March 2022 unless otherwise extended or shortened by our board of directors. The timing and amount of repurchases will depend on a variety of factors, including the price of our common stock compared to the intrinsic value, alternative investment opportunities, corporate and regulatory requirements and market conditions. As of December 31, 2020, we have not repurchased any shares under this repurchase program.

Cash Flows. The following table summarizes our cash flows for the periods presented:

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Net cash provided by operating activities	$ 216,334	$ 139,067
Net cash used in investing activities	(25,568)	(14,788)
Net cash provided by financing activities	191,678	65,850
Effect of exchange rate changes on cash	826	(257)
Net increase in cash and cash equivalents	$ 383,270	$ 189,872

Cash Flows from Operating Activities

Cash flows from operating activities consist of our net income adjusted for certain non-cash reconciling items, such as stock-based compensation expense, change in the fair value of derivatives, deferred income tax benefit, loss on conversion of Notes due 2024, depreciation and amortization, and changes in our operating assets and liabilities. Net cash provided by operating activities increased by $77.3 million for the year ended December 31, 2020 compared to the year ended December 31, 2019, primarily due to an increase in our gross profit as a result of increased revenue, $24.8 million cash received of the total tariff refund request of $39.5 million, partially offset by higher operating expenses as we continue to invest in the long-term growth of our business and also by $3.1 million cash repayment deemed as an amount paid for settlement of $43.9 million aggregate principal amount of the Notes due 2024 accreted debt discount. For more detail on tariff refund request, refer Note 12. “Contingencies” in “Commitments and Contingencies,” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Cash Flows from Investing Activities

For the year ended December 31, 2020 net cash used in investing activities was primarily from $20.6 million used in purchases of test and assembly equipment to expand our supply capacity, related facility improvements and information technology enhancements, and capitalized costs related to internal-use software and $5.0 million payment related to the acquisition of equity investment in a private company.

For the year ended December 31, 2019, net cash used in investing activities was primarily used in purchases of test and assembly equipment to expand our supply capacity, related facility improvements and information technology enhancements, and capitalized costs related to internal-use software.

Cash Flows from Financing Activities

For the year ended December 31, 2020, net cash provided by financing activities of $191.7 million was primarily from $312.4 million net proceeds from the issuance of our Notes due 2025, $71.6 million from sale of warrants related to our Notes due 2025, $8.4 million net proceeds from employee stock option exercises and issuance of common stock under our employee stock incentive program, partially offset by $89.1 million purchase of convertible note bond hedge related to our Notes due 2025, $68.3 million payment of employee withholding taxes related to net share settlement of equity awards, $40.7 million settlement of $43.9 million in aggregate principal amount of the Notes due 2024 and $2.6 million of repayment on sale of long-term financing receivables.

For the year ended December 31, 2019, net cash provided by financing activities of $65.9 million was primarily from $127.4 million net proceeds from the issuance of our Notes due 2024, $29.8 million from sale of warrants, $5.0 million net proceeds from employee stock option exercises and issuance of common stock under our employee stock incentive program, partially offset by $45.9 million repayment of our term loan and long-term financing receivable recorded as debt, $36.3 million purchase of bond hedges related to our Notes due 2024, $6.0 million fee paid to repurchase and exchange $60.0 million of Notes due 2023 and $8.2 million payment of employee withholding taxes related to net share settlement of equity awards.

Contractual Obligations

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

	Payments Due by Period				
	Total	2021	2022-2023	2024-2025	Beyond 2025
			(in thousands)		
Operating leases	$ 23,875	$ 5,830	$ 8,733	$ 5,344	$ 3,968
Notes due 2023 principal and interest	5,600	200	5,400	—	—
Notes due 2024 principal and interest [(1)]	89,180	61,822	592	26,766	—
Notes due 2025 principal and interest	323,602	800	1,600	321,202	—
Purchase obligations [(2)]	162,184	162,184	—	—	—
Total	$ 604,441	$ 230,836	$ 16,325	$ 353,312	$ 3,968

(1) Reflects the request for conversion of approximately $61.5 million in principal amount of our Notes due 2024 received through issuance of the financial statements on February 12, 2021, of which we have elected to settle the aggregate principal amount of the Notes due 2024 in a combination of cash and any excess in shares of our common stock in accordance with the applicable indenture. Such conversion will be settled in March 2021.

(2) Purchase obligations include amounts related to component inventory that our primary contract manufacturers procure on our behalf in accordance with our production forecast as well as other inventory related purchase commitments. The timing of purchases in future periods could differ materially from estimates presented above due to fluctuations in demand requirements related to varying sales levels as well as changes in economic conditions.

Off-Balance Sheet Arrangements

As of December 31, 2020, we did not have any off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of SEC Regulation S-K.

Critical Accounting Policies

The preparation of our consolidated financial statements and related notes requires us to make judgments, estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and related disclosure of contingent assets and liabilities.

We have based our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates due to risks and uncertainties, including uncertainty in the current economic environment due to the global impact of COVID-19. As of the date of issuance of these financial statements, we are not aware of any specific event or circumstance that would require us to update our estimates, judgments or revise the carrying value of our assets or liabilities. For a description of our significant accounting policies, see Note 2. “Summary of Significant Accounting Policies,” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K. An accounting policy is considered to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could materially impact the consolidated financial statements. We believe the following critical accounting policies reflect the more significant estimates and assumptions used in the preparation of our consolidated financial statements.

Revenue Recognition

We generate revenue from sales of our solutions, which include microinverter units and related accessories, an Envoy communications gateway, the cloud-based Enlighten monitoring service, and storage solutions to distributors, large installers, OEMs and strategic partners.

On January 1, 2018, we adopted Accounting Standards Codification ("ASC") No. 606, "Revenue Recognition" ("ASC 606" or "Topic 606") and applied the modified retrospective method to all contracts that were not completed as of January 1, 2018. The most significant impacts upon adoption of Topic 606 were how we account for revenue related to our Envoy communications device and related Enlighten service and the timing of when certain sales incentives are recognized. The full consideration for these products represents a single performance obligation and is deferred and recognized over the estimated service period.

Revenues are recognized when control of the promised goods or services are transferred to our customers in an amount that reflects the consideration that is expected to be received in exchange for those goods or services. We generate all of our revenues from contracts with our customers. A description of principal activities from which we generate revenues are as follows.

- *Products Delivered at a Point in Time.* We sell our products to customers in accordance with the terms of the related customer contracts. We generate revenues from sales of our solutions, which include microinverter units and related accessories, an Envoy communications gateway and Enlighten service, communications accessories and storage solutions to distributors, large installers, OEMs and strategic partners. Microinverter units, microinverter accessories, and storage solutions are delivered to customers at a point in time, and we recognize revenue for these products when we transfer control of the product to the customer, which is generally upon shipment.
- *Products Delivered Over Time.* The sale of an Envoy communications gateway includes our Enlighten cloud-based monitoring service. The full consideration for these products represents a single performance obligation and is deferred at the sale date and recognized over the estimated service period of 6 years. We also sell certain communication accessories that contain a service performance obligation to be delivered over time. The revenue from these products is recognized over the related service period, which is typically 5 or 12 years.

When we sell a product with more than one performance obligation, such as our IQ Combiner which includes both hardware and Envoy, the total consideration is allocated to these performance obligations based on their relative standalone selling prices. We previously sold Envoy communications device to certain customers under a long-term financing arrangement. Under this financing arrangement, we net the unbilled receivables against deferred revenue.

We record certain contra revenue promotions as variable consideration and recognizes these promotions at the time the related revenue is recorded.

We record upfront contract acquisition costs, such as sales commissions, to be capitalized and amortized over the estimated life of the asset. For contracts that have a duration of less than one year, we follow the Topic 606 practical expedient and expense these costs when incurred. Commissions related to our sale of monitoring hardware and service are capitalized and amortized over the period of the associated revenue.

See Note 3. "Revenue Recognition," of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information related to revenue recognition.

Inventory

Inventory is valued at the lower of cost or market. Market is current replacement cost (by purchase or by reproduction, dependent on the type of inventory). In cases where market exceeds net realizable value (*i.e.*, estimated selling price less reasonably predictable costs of completion and disposal), inventories are stated at net realizable value. Market is not considered to be less than net realizable value reduced by an allowance for an approximately normal profit margin. We determine cost on a first-in first-out basis. Certain factors could affect the realizable value of its inventory, including customer demand and market conditions. Management assesses the valuation on a quarterly basis and writes down the value for any excess and obsolete inventory based upon expected demand, anticipated sales price, effect of new product introductions, product obsolescence, customer concentrations, product merchantability and other factors. Inventory write-downs are equal to the difference between the cost of inventories and market.

Fair Value of Financial Instruments

The fair value of a financial instrument is the price 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. The carrying amounts of our cash, cash equivalents and restricted cash, accounts receivable, accounts payable and accrued liabilities approximate fair value because of the short maturity of those instruments. Equity investments with readily determinable fair value are carried at fair value based on quoted market prices or estimated based on market conditions and risks existing at each balance sheet date. Equity investments without readily determinable fair value are measured at cost less impairment, and are adjusted for observable price changes in orderly transactions for an identical or similar investment of the same issuer.

Convertible Note Derivatives

In March 2020, we issued $320 million aggregate principal amount of 0.25% convertible notes due 2025. Concurrently with the issuance of Notes due 2025, we entered into privately-negotiated convertible note hedge and warrant transactions which in combination are intended to reduce the potential dilution from the conversion of the Notes due 2025. We could not elect to issue the shares of common stock upon settlement of Notes due 2025 or convertible note hedge or warrant transactions due to insufficient authorized share capital. As a result, the embedded conversion option and warrants were accounted for as a derivative liabilities and convertible notes hedge as derivative asset and a gain (or loss) was reported in other expense, net in our consolidated statement of operations to the extent the valuation changed from the date of issuance of Notes due 2025. On May 20, 2020, at our annual meeting of stockholders, the stockholders approved an amendment to its certificate of incorporation to increase the number of authorized shares of the our common stock. As a result, we are now be able to settle the Notes due 2025, convertible notes hedge and warrants through payment or delivery, as the case may be, of cash, shares of its common stock or a combination thereof, at our election. Accordingly, on May 20, 2020, the embedded derivative liability, convertible notes hedge and warrants liability were remeasured at a fair value and were then reclassified to additional paid-in-capital in our condensed consolidated balance sheet in the second quarter of 2020 and are no longer remeasured as long as they continue to meet the conditions for equity classification. As of December 31, 2020, we do not have any convertible note derivatives. Note 8. “Debt” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Warranty Obligations

Microinverters and Other Products Sold Through December 31, 2013

Our warranty accrual provides for the replacement of microinverter units or other products that fail during the product’s warranty term (15 years for first and second generation microinverters and up to 25 years for subsequent generation microinverters). On a quarterly basis, we employ a consistent, systematic and rational methodology to assess the adequacy of our warranty liability. This assessment includes updating all key estimates and assumptions for each generation of product, based on historical results, trends and the most current data available as of the filing date. The key estimates and assumptions used in the warranty liability are thoroughly reviewed by management on a quarterly basis. The key estimates used by us to estimate our warranty liability are: (1) the number of units expected to fail over time (*i.e.,* failure rate); (2) the number of failed units expected to result in warranty claims over time (*i.e.,* claim rate); and (3) the per unit cost of replacement units, including outbound shipping and limited labor costs, expected to be incurred to replace failed units over time (*i.e.,* replacement cost).

Estimated Failure Rates — Our Quality and Reliability department has primary responsibility to determine the estimated failure rates for each generation of microinverter. To establish initial failure rate estimates for each generation of microinverter, our quality engineers use a combination of industry standard Mean Time Between Failure (“MTFB”) estimates for individual components contained in that generation of microinverters, third party data collected on similar equipment deployed in outdoor environments similar to those in which our microinverters are installed, and rigorous long term reliability and accelerated life cycle testing which simulates the service life of the microinverter in a short period of time. As units are deployed into operating environments, we continue to monitor product performance through our Enlighten monitoring platform. It typically takes three to nine months between the date of sale and date of end-user installation. Consequently, our ability to monitor actual failures of units sold similarly lags by three to nine months. When a microinverter fails and is returned, we perform diagnostic root cause failure analysis to understand and isolate the underlying mechanism(s) causing the failure. We then use the results of this analysis (combined with the actual, cumulative performance data collected on those units prior to failure through Enlighten) to draw conclusions with respect to how or if the identified failure mechanism(s) will impact the remaining units deployed in the installed base.

Estimated Claim Rates — Warranty claim rate estimates are based upon observed historical trends and assumptions with respect to expected customer behavior over the warranty period. As the vast majority of our microinverters have been sold to end users for residential applications, we believe that warranty claim rates will be affected by changes over time in residential home ownership because we expect that subsequent homeowners are less likely to file claims than the homeowners who originally purchase the microinverters.

Estimated Replacement Costs — Three factors are considered in our analysis of estimated replacement cost: (1) the estimated cost of replacement microinverters; (2) the estimated cost to ship replacement microinverters to end users; and (3) the estimated labor reimbursement expected to be paid to third party installers performing replacement services for the end user. Because our warranty provides for the replacement of defective microinverters over long periods of time (typically between 15 and 25 years, depending on the generation of product purchased), the estimated per unit cost of current and future product generations is considered in the estimated replacement cost. Estimated costs to ship replacement units are based on observable, market-based shipping costs paid by us to third party freight carriers. We have a separate program that allows third-party installers to claim fixed-dollar reimbursements for labor costs they incur to replace failed microinverter units for a limited time from the date of original installation. Included in our estimated replacement cost is an analysis of the number of fixed-dollar labor reimbursements expected to be claimed by third party installers over the limited offering period.

In addition to the key estimates noted above, we also compare actual warranty results to expected results and evaluate any significant differences. We may make additional adjustments to the warranty provision based on performance trends or other qualitative factors. If actual failure rates, claim rates, or replacement costs differ from our estimates in future periods, changes to these estimates may be required, resulting in increases or decreases in our warranty obligations. Such increases or decreases could be material.

Fair Value Option for Microinverters and Other Products Sold Since January 1, 2014

Our warranty obligations related to microinverters sold since January 1, 2014 provide us the right, but not the requirement, to assign our warranty obligations to a third-party. Under ASC 825, “Financial Instruments” (also referred to as the “fair value option”), an entity may choose to elect the fair value option for such warranties at the time it first recognizes the eligible item. We made an irrevocable election to account for all eligible warranty obligations associated with microinverters sold since January 1, 2014 at fair value. This election was made to reflect the underlying economics of the time value of money for an obligation that will be settled over an extended period of up to 25 years.

We estimate the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, we used certain inputs that are unobservable and significant to the overall fair value measurement. Such additional assumptions included compensation comprised of a profit element and risk premium required of a market participant to assume the obligation and a discount rate based on our credit-adjusted risk-free rate. See Note 9. “Fair Value Measurements,” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Commitments and Contingencies

In the normal course of business, we are subject to loss contingencies and loss recoveries, such as legal proceedings and claims arising out of our business as well as tariff refunds. An accrual for a loss contingency or loss recovery is recognized when it is probable and the amount of loss or recovery can be reasonably estimated. See Note 12. “Commitments and Contingencies,” of the notes to consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Business Combinations

Assets acquired and liabilities assumed as part of a business acquisition are generally recorded at their fair value at the date of acquisition. The excess of purchase price over the fair value of assets acquired and liabilities assumed is recorded as goodwill. Determining fair value of identifiable assets, particularly intangibles, and liabilities acquired also requires the Company to make estimates, which are based on all available information and in some cases assumptions with respect to the timing and amount of future revenues and expenses associated with an asset. Accounting for business acquisitions requires the Company to make judgments as to whether a purchase transaction is a multiple element contract, meaning that it includes other transaction components. This judgment and determination affect the amount of consideration paid that is allocable to assets and liabilities acquired in the business purchase transaction.

Intangible Assets

Intangible assets include patents and other purchased intangible assets. Intangible assets with finite lives are amortized on a straight-line basis, with estimated useful lives ranging from 3 to 9 years. Indefinite-lived intangible assets are tested for impairment annually and are also tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Intangible assets with finite lives are tested for impairment whenever events or circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. There was no impairment of intangible assets in any of the years presented.

Income Taxes

We record income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected tax consequences of temporary differences between the tax bases of assets and liabilities for financial reporting purposes and amounts recognized for income tax purposes. In estimating future tax consequences, generally all expected future events other than enactments or changes in the tax law or rates are considered. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount expected to be realized.

We assess the realizability of the deferred tax assets to determine release of valuation allowance as necessary. In the event we determine that it is more likely than not that we would be able to realize deferred tax assets in the future in excess of our net recorded amount, an adjustment to the valuation allowance for the deferred tax asset would increase income in the period such determination was made. Likewise, should it be determined that additional amounts of the net deferred tax asset will not be realized in the future, an adjustment to increase the deferred tax asset valuation allowance will be charged to income in the period such determination is made.

We operate in various tax jurisdictions and is subject to audit by various tax authorities. We follow accounting for uncertainty in income taxes which requires that the tax effects of a position be recognized only if it is "more likely than not" to be sustained based solely on its technical merits as of the reporting date. We consider many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

Market Risk

On March 9, 2020, we issued $320 million aggregate principal amount of our Notes due 2025, and entered into privately-negotiated convertible note hedge and warrant transactions, which in combination are intended to reduce the potential dilution from the conversion of the Notes due 2025 and to effectively increase the overall conversion price from $81.54 to $106.94 per share. For the period from March 9, 2020 through May 19, 2020, the Notes due 2025, convertible note hedge and warrant transactions could only be settled in cash because the number of authorized and unissued shares of our common stock that was not reserved for other purposes was less than the maximum number of underlying shares that would be required to settle the Notes due 2025, convertible note hedge and warrants transactions. As such, the embedded conversion option associated with the Notes due 2025, convertible notes hedge and warrants liability met the criteria for derivative accounting, and as a result, derivative financial instruments were marked-to-market at each reporting period. The volatile market conditions arising from

the COVID-19 pandemic resulted in significant changes in the price of our common stock in the first half of 2020, causing variability in the fair value of these derivative financial instruments, and materially affecting our consolidated statement of operations for the year ended December 31, 2020. Change in fair value of derivatives of $44.3 million for the year ended December 31, 2020 includes the charge recognized for the change in fair value of our convertible notes embedded derivative and warrants of $47.6 million and $24.7 million, respectively, partially offset by a gain recognized for the change in fair value of our convertible notes hedge of $28.0 million.

On May 20, 2020, we received approval at our annual meeting of stockholders to increase the authorized shares of our common stock, par value $0.00001 per share, from 150,000,000 shares to 200,000,000 shares. As discussed further in Note 11, “Debt,” of the notes to condensed consolidated financial statements included in Part II, Item 8 of this Annual Report on Form 10-K, we reclassified the remeasured fair value of embedded derivative, warrants and convertible notes hedge to additional paid-in-capital in the condensed consolidated balance in the second quarter of 2020. As a result of this reclassification, embedded derivative, warrants and convertible notes hedge are no longer marked to fair value at each reporting period.

Foreign Currency Exchange Risk

We operate and conduct business in foreign countries where our foreign entities use the local currency as their respective functional currency and, as a result, are exposed to movements in foreign currency exchange rates. More specifically, we face foreign currency exposure primarily from the effect of fluctuating exchange rates on payables and receivables relating to transactions that are denominated in Euros, Indian Rupee and Australian and New Zealand Dollars. These payables and receivables primarily arise from sales to customers and intercompany transactions. We also face currency exposure that arises from translating the results of our European, Indian, Australian and New Zealand operations, including sales and marketing and research and development expenses, to the U.S. dollar at exchange rates that have fluctuated from the beginning of a reporting period.

The effect of a hypothetical 10% adverse change in foreign exchange rates on monetary assets and liabilities at December 31, 2020 would not be material to our financial condition or results of operations. To date, foreign currency transaction gains and losses and exchange rate fluctuations have not been material to our financial statements, and we have not engaged in any foreign currency hedging transactions.

We do not enter into derivative financial instruments for trading or speculative purposes. We did not enter into any foreign currency forward contracts during 2020 and 2019. Any foreign currency forward contracts entered in the future are accounted for as derivatives whereby the fair value of the contracts is reported as other current assets or current liabilities, and gains and losses resulting from changes in the fair value are reported in other income (expense), net, in the accompanying consolidated statements of operations.

Credit Risk

Financial instruments that subject us to concentrations of credit risk consist primarily of cash and cash equivalents, accounts receivable, and derivative financial instruments. We maintain a substantial portion of our cash balances in non-interest-bearing and interest-bearing deposits and money market accounts. The derivative financial instruments expose us to credit risk to the extent that the counterparties may be unable to meet the terms of the arrangement. We mitigate this credit risk by transacting with major financial institutions with high credit ratings. We are not required to pledge, and are not entitled to receive, cash collateral related to these derivative instruments. We do not enter into derivative contracts for trading or speculative purposes. Our net revenues are primarily concentrated among a limited number of customers. We monitor the financial condition of our customers and perform credit evaluations whenever considered necessary and maintain an allowance for doubtful accounts for estimated potential credit losses.

Interest Rate Risk

We had cash, cash equivalents and restricted cash of $679.4 million and $296.1 million as of December 31, 2020 and 2019, respectively, consisting of both non-interest bearing and interest-bearing deposits, and money market accounts. Such interest-earning instruments carry a degree of interest rate risk, but the risk is limited due to the duration of our short term investments. To date, fluctuations in interest income have not been significant. We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. We have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in interest rates.

Our cash flow exposure due to changes in interest rates related to our debt is limited as our Notes due 2025, Notes due 2024 and Notes due 2023 have fixed interest rates of 0.25%, 1.0% and 4.0%, respectively. The fair value

of the Convertible Notes may increase or decrease for various reasons, including fluctuations in the market price of our common stock, fluctuations in market interest rates and fluctuations in general economic conditions. In the year ended December 31, 2020, we recognized a $3.0 million non-cash loss on settlement of approximately $43.9 million aggregate principal amount of the Notes due 2024 as a result of the change in fair value. Based upon the quoted market price as of December 31, 2020, the fair value of our Notes due 2025 and Notes due 2024 was approximately $725.5 million and $747.1 million, respectively. Notes due 2023 are not actively traded.

A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

Equity Price Risk Involving Minority Interest Investment in A Non-Public Company

As of December 31, 2020, an investment of $5.0 million in a privately-held company is accounted for using the measurement alternative method. This strategic equity investment in a third party is subject to risk of changes in market value and could result in realized impairment losses. We generally do not attempt to reduce or eliminate our market exposure in equity investments. We monitor these investments for impairment and record reductions in the carrying values when necessary. Circumstances that indicate an other-than-temporary decline include the valuation ascribed to the issuing company in subsequent financing rounds, decreases in quoted market prices and declines in operations of the issuer. There can be no assurance that our equity investment will not face risks of loss in the future.

Item 8. Financial Statements and Supplementary Data

ENPHASE ENERGY, INC.

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

AS OF DECEMBER 31, 2020 AND 2019,

AND FOR THE YEARS ENDED DECEMBER 31, 2020, 2019 AND 2018

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Enphase Energy, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Enphase Energy, Inc. and subsidiaries (the "Company") as of December 31, 2020 and 2019, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows, for each of the three years in the period ended December 31, 2020, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements 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.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 12, 2021, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Warranty Obligations – Microinverters - Refer to Notes 2, 8 and 9 to the consolidated financial statements

Critical Audit Matter Description

The Company’s warranty obligation provides for the replacement of microinverter units that fail during the product’s warranty term of 15 to 25 years. The estimated warranty liability is developed for each generation of product and requires management to estimate, among other factors, (1) the number of units expected to fail over time (i.e., failure rate); (2) the number of failed units expected to result in warranty claims over time (i.e., claim rate); and (3) the per unit cost of replacement units (i.e., replacement cost), all of which consider historical results, trends and the most current data available when the financial statements are available to be issued. The Company’s warranty liability for all microinverter units sold after January 1, 2014 is measured at fair value by applying both of the following to the liability that results from the 3 factors discussed above: (1) compensation comprised of a profit element and risk premium required for a market participant to assume the obligation and (2) a discount rate based on the Company’s credit adjusted risk free rate.

Given the subjectivity of estimating the projected failure rates and warranty claims, performing audit procedures to evaluate whether the expected failure rates were appropriately determined as of December 31, 2020, required a high degree of auditor judgment and an increased extent of effort.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the estimated failure rates used in determining the warranty obligation included the following, among others:

- We tested the effectiveness of controls utilized in the review of the warranty obligation calculation, including controls over the determination of estimated failure rates.
- We evaluated the methods and assumptions used by management to estimate the failure rates used as part of the calculation of the warranty obligation by:
  - Testing the underlying data that served as the basis for the Company's failure rate analysis, which include historical claims and historical product sales, in order to evaluate the various assumptions and historical data consisting of failure of individual components contained in its microinverters.
  - Reviewing third party data compiled on similar products in order to challenge management's assumptions and identify supporting or contradictory evidence.
  - Comparing management's prior-year assumptions of expected failures to actual warranty claims received during the current year to identify potential bias in the determination of the failure rate estimates used in the warranty obligation recorded.
  - Developing independent estimates of the future failure rates for product families by utilizing data analytics and compared them to management assumptions.

Valuation of Convertible note embedded derivative, Convertible notes hedge and Warrants – Refer to Note 9 and 11.

Critical Audit Matter Description

On March 9, 2020, the Company issued $320 million aggregate principal amount of 0.25% convertible senior notes due 2025 (the "Notes"). Concurrently, the Company entered into privately-negotiated convertible notes hedge and warrant transactions which in combination were intended to mitigate potential dilutive effects from the conversion of the Notes. Upon initial recognition of the Notes, the convertible notes embedded derivative, convertible note hedge and warrants met the classification criteria for derivative accounting, and as a result, derivative financial instruments are mark-to-market at each reporting period or until they no longer meet the classification criteria for derivative accounting. Complex models incorporating observable and unobservable inputs were utilized to value the derivatives. The fair value of the convertible note embedded derivative is estimated using a Binomial Lattice model and the fair value of convertible notes hedge and warrants are estimated using Black-Scholes-Merton model.

Unlike the fair value of other financial instruments that are readily observable and therefore more easily independently corroborated, the valuation of the three derivatives is inherently subjective and involves the use of complex modeling tools. Auditing the fair values requires a high degree of auditor judgment and an increased extent of effort. This includes involving our fair value specialists who possess significant quantitative and modeling expertise needed to evaluate the appropriateness of these models and inputs.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the valuation of the convertible notes embedded derivative, convertible notes hedge and warrants included the following, among others:

- We tested the effectiveness of controls over management's valuation of the convertible note embedded derivative, convertible notes hedge and warrants.
- We evaluated management's methodology and whether management's assumptions were reasonable.
- We evaluated the competency and objectivity of management's expert engaged by the Company to perform the valuation of the convertible note embedded derivative, convertible notes hedge and warrants.
- With the assistance of our fair value specialists, we developed independent fair value estimates and compared our estimates to the Company's estimates.

- We tested the underlying inputs used in valuation of the convertible note embedded derivative, convertible notes hedge and warrants for accuracy and completeness.
- We evaluated the additional accounting and reporting disclosures included in the Company's Consolidated Financial Statements.

/s/ DELOITTE & TOUCHE LLP

San Francisco, California
February 12, 2021

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

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Enphase Energy, Inc.

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Enphase Energy, Inc. and subsidiaries (the "Company") 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 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 COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2020, of the Company and our report dated February 12, 2021 expressed as an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ DELOITTE & TOUCHE LLP

San Francisco, California
February 12, 2021

ENPHASE ENERGY, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except par value)

	As of	
	December 31, 2020	December 31, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 679,379	$ 251,409
Restricted cash	—	44,700
Accounts receivable, net of allowances of $462 and $564 at December 31, 2020 and December 31, 2019, respectively	182,165	145,413
Inventory	41,764	32,056
Prepaid expenses and other assets	29,756	26,079
Total current assets	933,064	499,657
Property and equipment, net	42,985	28,936
Operating lease, right of use asset, net	17,683	10,117
Intangible assets, net	28,808	30,579
Goodwill	24,783	24,783
Other assets	59,875	44,620
Deferred tax assets, net	92,904	74,531
Total assets	$ 1,200,102	$ 713,223
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 72,609	$ 57,474
Accrued liabilities	76,542	47,092
Deferred revenues, current	47,665	81,783
Warranty obligations, current (includes $8,267 and $6,794 measured at fair value at December 31, 2020 and December 31, 2019, respectively)	11,260	10,078
Debt, current	325,967	2,884
Total current liabilities	534,043	199,311
Long-term liabilities:		
Deferred revenues, noncurrent	125,473	100,204
Warranty obligations, noncurrent (includes $20,469 and $13,012 measured at fair value at December 31, 2020 and December 31, 2019, respectively)	34,653	27,020
Other liabilities	17,042	11,817
Debt, noncurrent	4,898	102,659
Total liabilities	716,109	441,011
Commitments and contingencies (Note 12)		
Stockholders' equity:		
Common stock, $0.00001 par value, 200,000 shares and 150,000 shares authorized; and 128,962 shares and 123,109 shares issued and outstanding at December 31, 2020 and December 31, 2019, respectively	1	1
Additional paid-in capital	534,744	458,315
Accumulated deficit	(51,186)	(185,181)
Accumulated other comprehensive income (loss)	434	(923)
Total stockholders' equity	483,993	272,212
Total liabilities and stockholders' equity	$ 1,200,102	$ 713,223

See Notes to Consolidated Financial Statements.

ENPHASE ENERGY, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except per share data)

	Years Ended December 31,		
	2020	2019	2018
Net revenues	$ 774,425	$ 624,333	$ 316,159
Cost of revenues	428,444	403,088	221,714
Gross profit	345,981	221,245	94,445
Operating expenses:			
Research and development	55,921	40,381	32,587
Sales and marketing	52,927	36,728	27,047
General and administrative	50,694	38,808	29,086
Restructuring charges	—	2,599	4,129
Total operating expenses	159,542	118,516	92,849
Income from operations	186,439	102,729	1,596
Other expense, net			
Interest income	2,156	2,513	1,058
Interest expense	(21,001)	(9,691)	(10,693)
Other expense, net	(3,836)	(5,437)	(2,190)
Change in fair value of derivatives	(44,348)	—	—
Total other expense, net	(67,029)	(12,615)	(11,825)
Income (loss) before income taxes	119,410	90,114	(10,229)
Income tax benefit (provision)	14,585	71,034	(1,398)
Net income (loss)	$ 133,995	$ 161,148	$ (11,627)
Net income (loss) per share:			
Basic	$ 1.07	$ 1.38	$ (0.12)
Diluted	$ 0.95	$ 1.23	$ (0.12)
Shares used in per share calculation:			
Basic	125,561	116,713	99,619
Diluted	141,918	131,644	99,619

See Notes to Consolidated Financial Statements.

ENPHASE ENERGY, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Years Ended December 31,		
	2020	2019	2018
Net income (loss)	$ 133,995	$ 161,148	$ (11,627)
Other comprehensive income (loss):			
Foreign currency translation adjustments	1,357	(1,665)	1,398
Comprehensive income (loss)	$ 135,352	$ 159,483	$ (10,229)

See Notes to Consolidated Financial Statements.

ENPHASE ENERGY, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands)

	Common Stock		Additional Paid-In Capital	Accumulated Income (Deficit)	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity (Deficit)
	Shares	Amount				
Balance at December 31, 2017	85,914	$ 1	$ 287,256	$ (295,727)	$ (656)	$ (9,126)
Cumulative-effect adjustment to accumulated deficit related to the adoption of ASC 606	—	—	—	(38,948)	—	(38,948)
Issuance of common stock from exercise of equity awards and employee stock purchase plan	3,185	—	2,806	—	—	2,806
Issuance of common stock, net of offering costs	9,524	—	19,766	—	—	19,766
Issuance of common stock related to acquisition	7,500	—	32,319	—	—	32,319
Exercise of warrants	912	—	—	—	—	—
Stock-based compensation	—	—	11,188	—	—	11,188
Net loss	—	—	—	(11,627)	—	(11,627)
Foreign currency translation adjustment	—	—	—	—	1,398	1,398
Balance at December 31, 2018	107,035	$ 1	$ 353,335	$ (346,302)	$ 742	$ 7,776
Cumulative-effect adjustment to accumulated deficit related to the adoption of ASU 2018-07	—	—	27	(27)	—	—
Issuance of common stock from exercise of equity awards and employee stock purchase plan	5,273	—	4,985	—	—	4,985
Payment of withholding taxes related to net share settlement of equity awards	—	—	(8,198)	—	—	(8,198)
Conversion of convertible notes due 2023, net	10,801	—	58,857	—	—	58,857
Equity component of convertible notes due 2024, net	—	—	35,387	—	—	35,387
Cost of convertible notes hedge related to the convertible notes due 2024	—	—	(36,313)	—	—	(36,313)
Sale of warrants related to the convertible notes due 2024	—	—	29,818	—	—	29,818
Stock-based compensation	—	—	20,417	—	—	20,417
Net income	—	—	—	161,148	—	161,148
Foreign currency translation adjustment	—	—	—	—	(1,665)	(1,665)
Balance at December 31, 2019	123,109	$ 1	$ 458,315	$ (185,181)	$ (923)	$ 272,212
Issuance of common stock from exercise of equity awards and employee stock purchase plan	4,002	—	8,395	—	—	8,395
Payment of withholding taxes related to net share settlement of equity awards	—	—	(68,330)	—	—	(68,330)
Equity component of convertible notes due 2025, net	—	—	116,502	—	—	116,502
Cost of convertible notes hedge related to the convertible notes due 2025	—	—	(117,108)	—	—	(117,108)
Sale of warrants related to the convertible notes due 2025	—	—	96,351	—	—	96,351

Equity component of partial settlement of convertible notes due 2024, net of tax	—	—	(306,220)	—	—	(306,220)
Partial settlement of convertible notes due 2024	1,851	—	301,015	—	—	301,015
Exercise of convertible notes due 2024 Hedge	(1,851)	—	—	—	—	—
Exercise of warrants	1,851	—	—	—	—	—
Change in fair value of common stock related to acquisition	—	—	3,321	—	—	3,321
Stock-based compensation	—	—	42,503	—	—	42,503
Net income	—	—	—	133,995	—	133,995
Foreign currency translation adjustment	—	—	—	—	1,357	1,357
Balance at December 31, 2020	128,962	$ 1	$ 534,744	$ (51,186)	$ 434	$ 483,993

See Notes to Consolidated Financial Statements.

ENPHASE ENERGY, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Years Ended December 31,		
	2020	2019	2018
Cash flows from operating activities:			
Net income (loss)	$ 133,995	$ 161,148	$ (11,627)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	18,103	14,119	9,667
Provision for doubtful accounts	425	217	711
Asset impairment	—	1,124	1,601
Loss on partial repurchase of convertibles notes due 2024	3,037	—	—
Deemed repayment of convertible notes due 2024 attributable to accreted debt discount	(3,132)	—	—
Non-cash interest expense	18,825	6,081	2,701
Financing fees on extinguishment of debt	—	2,152	—
Fees paid for repurchase and exchange of convertible notes due 2023	—	6,000	—
Stock-based compensation	42,503	20,176	11,432
Change in fair value of derivatives	44,348	—	—
Deferred income taxes	(17,117)	(73,375)	123
Changes in operating assets and liabilities:			
Accounts receivable	(34,321)	(68,745)	(13,515)
Inventory	(9,708)	(15,789)	9,732
Prepaid expenses and other assets	(14,636)	(14,293)	(3,130)
Intangible assets	—	—	(10,000)
Accounts payable, accrued and other liabilities	35,695	22,200	23,082
Warranty obligations	8,815	5,804	1,478
Deferred revenues	(10,498)	72,248	(6,123)
Net cash provided by operating activities	216,334	139,067	16,132
Cash flows from investing activities:			
Purchases of property and equipment	(20,558)	(14,788)	(4,151)
Purchase of investment in private company	(5,010)	—	—
Acquisition	—	—	(15,000)
Net cash used in investing activities	(25,568)	(14,788)	(19,151)
Cash flows from financing activities:			
Issuance of convertible notes, net of issuance costs	312,420	127,413	—
Purchase of convertible note hedges	(89,056)	(36,313)	—
Sale of warrants	71,552	29,818	—
Fees paid for repurchase and exchange of convertible notes due 2023	—	(6,000)	—
Principal payments and financing fees on debt	(2,575)	(45,855)	(9,976)
Proceeds from issuance of common stock, net of issuance costs	—	—	19,766
Proceeds from debt, net of issuance costs	—	—	68,024
Partial repurchase of convertible notes due 2024	(40,728)	—	—
Proceeds from exercise of equity awards and employee stock purchase plan	8,395	4,985	2,800
Payment of withholding taxes related to net share settlement of equity awards	(68,330)	(8,198)	—
Net cash provided by financing activities	191,678	65,850	80,614
Effect of exchange rate changes on cash and cash equivalents	826	(257)	(502)
Net increase in cash, cash equivalents and restricted cash	383,270	189,872	77,093
Cash, cash equivalents and restricted cash—Beginning of period	296,109	106,237	29,144
Cash. cash equivalents and restricted cash—End of period	$ 679,379	$ 296,109	$ 106,237

	Years Ended December 31,		
	2020	2019	2018
Reconciliation of cash, cash equivalents, and restricted cash to the consolidated balance sheets			
Cash and cash equivalents	679,379	251,409	106,237
Restricted cash	—	44,700	—
Total cash, cash equivalents, and restricted cash	$ 679,379	$ 296,109	$ 106,237
Supplemental cash flow disclosure:			
Cash paid for interest	$ 1,875	$ 2,689	$ 6,343
Cash paid for income taxes	$ 3,452	$ 1,755	$ 775
Supplemental disclosures of non-cash investing and financing activities:			
Acquisition funded by issuance of common stock	$ —	$ —	$ 19,219
Purchases of fixed assets included in accounts payable	$ 3,630	$ 672	$ 895
Accrued interest payable unpaid upon exchange of convertible notes due 2023	$ —	$ 833	$ —

See Notes to Consolidated Financial Statements.

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF BUSINESS AND BASIS OF PRESENTATION

Description of Business

Enphase Energy, Inc. (the "Company") is a global energy technology company. The Company delivers smart, easy-to-use solutions that manage solar generation, storage and communication on one single platform. The Company revolutionized the solar industry with its microinverter technology and produces a fully integrated solar-plus-storage solution.

Basis of Presentation and Consolidation

The accompanying consolidated financial statements are presented in accordance with accounting principles generally accepted in the United States ("U.S."), or GAAP. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Use of Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of income and expenses during the reporting period. Significant estimates and assumptions reflected in the financial statements include revenue recognition, allowance for doubtful accounts, stock-based compensation, inventory valuation, accrued warranty obligations, fair value of debt derivatives and convertible notes, fair value of acquired intangible assets and goodwill, useful lives of acquired intangible assets and property and equipment, incremental borrowing rate for right-of-use assets and lease liability, probable loss recovery of tariff refunds, legal contingencies, and tax valuation allowance. These estimates are based on information available as of the date of the financial statements; therefore, actual results could differ materially from management's estimates using different assumptions or under different conditions.

The worldwide spread of the COVID-19 virus has resulted in a global slowdown of economic activity which decreased demand for a broad variety of goods and services, including from our customers, while also disrupting sales channels and marketing activities for an unknown period of time and may continue to create significant uncertainty in future operational and financial performance. The Company expects this to have negative impact on its sales and its results of operations. In preparing the Company's consolidated financial statements in accordance with GAAP, the Company is required to make estimates, assumptions and judgments that affect the amounts reported in its financial statements and the accompanying disclosures. Estimates and assumptions about future events and their effects cannot be determined with certainty and therefore require the exercise of judgment. As of the date of issuance of these financial statements, the Company is not aware of any specific event or circumstance that would require the Company to update its estimates, judgments or revise the carrying value of its assets or liabilities. These estimates may change, as new events occur and additional information is obtained, and are recognized in the consolidated financial statements as soon as they become known. Actual results could differ from those estimates and any such differences may be material to the Company's financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Revenue Recognition

The Company generates revenue from sales of its solutions, which include microinverter units and related accessories, an Envoy communications gateway, the cloud-based Enlighten monitoring service, and storage solutions to distributors, large installers, original equipment manufacturers ("OEMs") and strategic partners.

On January 1, 2018, the Company adopted Accounting Standards Codification ("ASC") No. 606, "Revenue Recognition" ("ASC 606" or "Topic 606") and applied the modified retrospective method to all contracts that were not completed as of January 1, 2018. The most significant impacts upon adoption of Topic 606 were how the Company accounts for revenue related to its Envoy™ communications device and related Enphase Enlighten Software™, or Enlighten, service and the timing of when certain sales incentives are recognized. The full consideration for these products represents a single performance obligation and is deferred and recognized over the estimated service period.

Revenues are recognized when control of the promised goods or services are transferred to the Company's customers in an amount that reflects the consideration that is expected to be received in exchange for those goods or services. The Company generates all of its revenues from contracts with its customers. A description of principal activities from which the Company generates revenues follows.

- *Products Delivered at a Point in Time.* The Company sells its products to customers in accordance with the terms of the related customer contracts. The Company generates revenues from sales of its solutions, which include microinverter units and related accessories, an Envoy communications gateway and Enlighten service, communications accessories and storage solutions to distributors, large installers, OEMs and strategic partners. Microinverter units, microinverter accessories, and storage solutions are delivered to customers at a point in time, and the Company recognizes revenue for these products when the Company transfers control of the product to the customer, which is generally upon shipment.
- *Products Delivered Over Time.* The sale of an Envoy communications gateway includes the Company's Enlighten cloud-based monitoring service. The full consideration for these products represents a single performance obligation and is deferred at the sale date and recognized over the estimated service period of 6 years. The Company also sells certain communication accessories that contain a service performance obligation to be delivered over time. The revenue from these products is recognized over the related service period, which is typically 5 or 12 years.

When the Company sells a product with more than one performance obligation, such as the IQ Combiner which includes both hardware and Envoy, the total consideration is allocated to these performance obligations based on their relative standalone selling prices. The Company previously sold its Envoy communications device to certain customers under a long-term financing arrangement. Under this financing arrangement, the Company nets the unbilled receivables against deferred revenue.

The Company records certain contra revenue promotions as variable consideration and recognizes these promotions at the time the related revenue is recorded.

The Company records upfront contract acquisition costs, such as sales commissions, to be capitalized and amortized over the estimated life of the asset. For contracts that have a duration of less than one year, the Company follows the Topic 606 practical expedient and expenses these costs when incurred. Commissions related to the Company's sale of monitoring hardware and service are capitalized and amortized over the period of the associated revenue, which is 6 years.

See Note 3. "Revenue Recognition," for additional information related to revenue recognition.

Cost of Revenues

The Company includes the following in cost of revenues: product costs, warranty, manufacturing personnel and logistics costs, freight costs, inventory write-downs, hosting services costs related to the Company's Enlighten service offering, and depreciation and amortization of manufacturing test equipment. A description of principal activities from which the Company recognizes cost of revenue is as follows.

- *Products Delivered at a Point in Time.* Cost of revenue from these products is recognized when the Company transfers control of the product to the customer, which is generally upon shipment.
- *Products Delivered Over Time.* Cost of revenue from these products is recognized over the related service period.

Cash and Cash Equivalents

The Company considers all highly liquid investments, such as certificates of deposit and money market instruments with maturities of three months or less at the time of acquisition to be cash equivalents. For all periods presented, its cash balances consist of amounts held in non-interest-bearing and interest-bearing deposits and money market accounts.

Restricted Cash

Restricted cash represents cash held as certificate of deposit collateralized under a letter of credit issued to a customer. The letter of credit was required as a performance security in a face amount equal to the aggregate purchase price of the executed sales agreement. The letter of credit was issued per the terms of the executed sales agreement with a customer for safe harbor prepayment and the Company had collateralized a certificate of deposit under this letter of credit in an amount of $44.7 million, which was reflected as restricted cash on the Company's consolidated balance sheet as of December 31, 2019. As of December 31, 2020, the Company does not have restricted cash balance.

Fair Value of Financial Instruments

The fair value of a financial instrument is the price 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. The carrying amounts of the Company's cash, cash equivalents and restricted cash, accounts receivable, accounts payable and accrued liabilities approximate fair value because of the short maturity of those instruments. Equity investments with readily determinable fair value are carried at fair value based on quoted market prices or estimated based on market conditions and risks existing at each balance sheet date. Equity investments without readily determinable fair value are measured at cost less impairment, and are adjusted for observable price changes in orderly transactions for an identical or similar investment of the same issuer.

Convertible Note Derivatives

In March 2020, the Company issued $320 million aggregate principal amount of 0.25% convertible notes due 2025. Concurrently with the issuance of Notes due 2025, the Company entered into privately-negotiated convertible note hedge and warrant transactions which in combination are intended to reduce the potential dilution from the conversion of the Notes due 2025. The Company could not elect to issue the shares of common stock upon settlement of Notes due 2025 or convertible note hedge or warrant transactions due to insufficient authorized share capital. As a result, the embedded conversion option and warrants were accounted for as a derivative liabilities and convertible notes hedge as derivative asset and a gain (or loss) was reported in other expense, net in the consolidated statement of operations to the extent the valuation changed from the date of issuance of Notes due 2025. On May 20, 2020, at the Company's annual meeting of stockholders, the stockholders approved an amendment to its certificate of incorporation to increase the number of authorized shares of the Company's common stock. As a result, the Company is now be able to settle the Notes due 2025, convertible notes hedge and warrants through payment or delivery, as the case may be, of cash, shares of its common stock or a combination thereof, at the Company's election. Accordingly, on May 20, 2020, the embedded derivative liability, convertible notes hedge and warrants liability were remeasured at a fair value and were then reclassified to additional paid-in-capital in the condensed consolidated balance sheet in the second quarter of 2020 and are no longer remeasured as long as they continue to meet the conditions for equity classification. As of December 31, 2020, the Company does not have any convertible note derivatives. See Note 11. "Debt" for additional information related to these transactions.

Accounts Receivables and Contract Assets

The Company receives payments from customers based upon contractual billing schedules. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract assets include deferred product costs and commissions associated with the deferred revenue and will be amortized along with the associated revenue.

Allowance for Doubtful Accounts

The Company maintains allowances for doubtful accounts for uncollectible accounts receivable. Management estimates anticipated credit losses from doubtful accounts based on days past due, customer specific experience, collection history, the financial health of customers including from the impacts of the COVID-19 pandemic, among other factors. Accounts receivable are recorded net of allowance for doubtful accounts. The following table sets forth activities in the allowance for doubtful accounts for the periods indicated.

	December 31,		
	2020	2019	2018
	(In thousands)		
Balance, at beginning of year	$ 564	$ 2,138	$ 2,378
Net charges to expenses	425	217	711
Write-offs, net of recoveries	(527)	(1,791)	(951)
Balance, at end of year	$ 462	$ 564	$ 2,138

Inventory

Inventory is valued at the lower of cost or market. Market is current replacement cost (by purchase or by reproduction, dependent on the type of inventory). In cases where market exceeds net realizable value (*i.e.*, estimated selling price less reasonably predictable costs of completion and disposal), inventories are stated at net realizable value. Market is not considered to be less than net realizable value reduced by an allowance for an approximately normal profit margin. The Company determines cost on a first-in first-out basis. Management assesses the valuation on a quarterly basis and writes down the value for any excess and obsolete inventory based upon expected demand, anticipated sales price, effect of new product introductions, product obsolescence, customer concentrations, product merchantability and other factors. Inventory write-downs are equal to the difference between the cost of inventories and market.

Long-Lived Assets

Property and equipment are stated at cost less accumulated depreciation. Cost includes amounts paid to acquire or construct the asset as well as any expenditure that substantially adds to the value of or significantly extends the useful life of an existing asset. Repair and maintenance costs are expensed as incurred. Depreciation and amortization are computed using the straight-line method over the estimated useful lives of the assets, which range from 3 to 10 years. Leasehold improvements are amortized over the shorter of the lease term or expected useful life of the improvements.

Internal-use software, whether purchased or developed, is capitalized at cost and amortized on a straight-line basis over its estimated useful life. Costs associated with internally developed software are expensed until the point at which the project has reached the development stage. Subsequent additions, modifications or upgrades to internal-use software are capitalized only to the extent that they provide additional functionality. Software maintenance and training costs are expensed in the period in which they are incurred. The capitalization of internal-use software requires judgment in determining when a project has reached the development stage and the period over which the Company expects to benefit from the use of that software.

The Company capitalizes implementation costs related to cloud computing (i.e. hosting) arrangements that are accounted for as a service contract that meets the accounting requirement for capitalization as such implementation costs were incurred to develop or utilize internal-use software hosted by a third party vendor. The capitalized implementation costs are recorded as part of “Other assets” on the consolidated balance sheet and is amortized over the length of the service contract.

Property, plant and equipment, including internal-use software, and capitalized implementation costs related to cloud computing arrangements, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss would be recognized when the carrying amount of an asset exceeds the estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. The Company recorded asset impairment charges for specific assets that were no longer in use of approximately zero, $1.1 million and $1.6 million for the years ended 2020, 2019 and 2018, respectively. There were no events or changes in circumstances that may indicate the carrying amount of remaining assets is not recoverable.

Business Combinations

Assets acquired and liabilities assumed as part of a business acquisition are generally recorded at their fair value at the date of acquisition. The excess of purchase price over the fair value of assets acquired and liabilities assumed is recorded as goodwill. Determining fair value of identifiable assets, particularly intangibles, and liabilities acquired also requires the Company to make estimates, which are based on all available information and in some cases assumptions with respect to the timing and amount of future revenues and expenses associated with an asset. Accounting for business acquisitions requires the Company to make judgments as to whether a purchase transaction is a multiple element contract, meaning that it includes other transaction components. This judgment and determination affect the amount of consideration paid that is allocable to assets and liabilities acquired in the business purchase transaction.

Goodwill

Goodwill results from the purchase consideration paid in excess of the fair value of the net assets recorded in connection with a business acquisition. Goodwill is not amortized but is assessed for potential impairment at least annually during the fourth quarter of each fiscal year or between annual tests if an event occurs or circumstances change that would indicate the carrying amount may be impaired. Goodwill is tested at the reporting unit level, which the Company has determined to be the same as the entity as a whole (entity level). The Company first performs qualitative assessment to determine whether it is more likely than not that the fair value of our reporting unit is less than its carrying value. If, after assessing the qualitative factors, we determine that it is more likely than not that the fair value of our reporting unit is less than its carrying value, an impairment analysis will be performed.

Qualitative factors include industry and market consideration, overall financial performance, share price trends and market capitalization and Company-specific events. The Company determined, after performing a qualitative review of its reporting unit, that it is more likely than not that the fair value of our reporting unit exceeds its carrying value. Accordingly, there was no indication of impairment in the years ended 2020, 2019 and 2018 and no quantitative goodwill impairment test was performed.

Intangible Assets

Intangible assets include patents and other purchased intangible assets. Intangible assets with finite lives are amortized on a straight-line basis, with estimated useful lives ranging from 3 to 9 years. Indefinite-lived intangible assets are tested for impairment annually and are also tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Intangible assets with finite lives are tested for impairment whenever events or circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. There was no impairment of intangible assets in any of the years presented.

Contract Liabilities

Contract liabilities are recorded as deferred revenue on the accompanying consolidated balance sheets and include payments received in advance of performance obligations under the contract and are realized when the associated revenue is recognized under the contract.

Warranty Obligations

Microinverters and Other Products Sold Through December 31, 2013

The Company's warranty accrual provides for the replacement of microinverter units or other products that fail during the product's warranty term (typically 15 years for first and second generation microinverters and up to 25 years for subsequent generation microinverters). On a quarterly basis, the Company employs a consistent, systematic and rational methodology to assess the adequacy of its warranty liability. This assessment includes updating all key estimates and assumptions for each generation of product, based on historical results, trends and the most current data available as of the filing date. The key estimates and assumptions used in the warranty liability are thoroughly reviewed by management on a quarterly basis. The key estimates used by the Company to estimate its warranty liability are: (1) the number of units expected to fail over time (*i.e.,* failure rate); (2) the number of failed units expected to result in warranty claims over time (*i.e.,* claim rate); and (3) the per unit cost of replacement units, including outbound shipping and limited labor costs, expected to be incurred to replace failed units over time (*i.e.,* replacement cost).

Estimated Failure Rates — The Company's Quality and Reliability department has primary responsibility to determine the estimated failure rates for each generation of microinverter. To establish initial failure rate estimates for each generation of microinverter, the Company's quality engineers use a combination of industry standard Mean Time Between Failure ("MTBF") estimates for individual components contained in its microinverters, third party data collected on similar equipment deployed in outdoor environments similar to those in which the Company's microinverters are installed, and rigorous long term reliability and accelerated life cycle testing which simulates the service life of the microinverter in a short period of time. As units are deployed into operating environments, the Company continues to monitor product performance through its Enlighten monitoring platform. It typically takes three to nine months between the date of sale and date of end-user installation. Consequently, the Company's ability to monitor actual failures of units sold similarly lags by three to nine months. When a microinverter fails and is returned, the Company performs diagnostic root cause failure analysis to understand and isolate the underlying mechanism(s) causing the failure. The Company then uses the results of this analysis (combined with the actual, cumulative performance data collected on those units prior to failure through Enlighten) to draw conclusions with respect to how or if the identified failure mechanism(s) will impact the remaining units deployed in the installed base.

Estimated Claim Rates — Warranty claim rate estimates are based upon observed historical trends and assumptions with respect to expected customer behavior over the warranty period. As the vast majority of the Company's microinverters have been sold to end users for residential applications, the Company believes that warranty claim rates will be affected by changes over time in residential home ownership because the Company expects that subsequent homeowners are less likely to file claims than the homeowners who originally purchase the microinverters.

Estimated Replacement Costs — Three factors are considered in the Company's analysis of estimated replacement cost: (1) the estimated cost of replacement microinverters; (2) the estimated cost to ship replacement microinverters to end users; and (3) the estimated labor reimbursement expected to be paid to third party installers performing replacement services for the end user. Because the Company's warranty provides for the replacement of defective microinverters over long periods of time (between 15 and 25 years, depending on the generation of product purchased), the estimated per unit cost of current and future product generations is considered in the estimated replacement cost. Estimated costs to ship replacement units are based on observable, market-based shipping costs paid by the Company to third party freight carriers. The Company has a separate program that allows third-party installers to claim fixed-dollar reimbursements for labor costs they incur to replace failed microinverter units for a limited time from the date of original installation. Included in the Company's estimated replacement cost is an analysis of the number of fixed-dollar labor reimbursements expected to be claimed by third party installers over the limited offering period.

In addition to the key estimates noted above, the Company also compares actual warranty results to expected results and evaluates any significant differences. Management may make additional adjustments to the warranty provision based on performance trends or other qualitative factors. If actual failure rates, claim rates, or replacement costs differ from the Company's estimates in future periods, changes to these estimates may be required, resulting in increases or decreases in the Company's warranty obligations. Such increases or decreases could be material.

Fair Value Option for Microinverters and Other Products Sold Since January 1, 2014

The Company's warranty obligations related to microinverters sold since January 1, 2014 provide the Company the right, but not the requirement, to assign its warranty obligations to a third-party. Under ASC 825, "Financial Instruments" (also referred to as "fair value option"), an entity may choose to elect the fair value option for such warranties at the time it first recognizes the eligible item. The Company made an irrevocable election to account for all eligible warranty obligations associated with microinverters sold since January 1, 2014 at fair value. This election was made to reflect the underlying economics of the time value of money for an obligation that will be settled over an extended period of up to 25 years.

The Company estimates the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, the Company used certain inputs that are unobservable and significant to the overall fair value measurement. Such additional assumptions included compensation comprised of a profit element and risk premium required of a market participant to assume the obligation and a discount rate based on the Company's credit-adjusted risk-free rate. See Note 9. "Fair Value Measurements," for additional information.

Warranty obligations initially recorded at fair value at the time of sale will be subsequently re-measured to fair value at each reporting date. In addition, the fair value of the liability will be accreted over the corresponding term of the warranty of up to 25 years using the interest method.

Warranty for Other Products

The Company offers a 5-year warranty for its Envoy communications gateway and a 10-year warranty on its AC Battery storage solution. The warranties provide the Company with the right, but not the obligation, to assign its warranty obligations to a third-party. As such, warranties for Envoy and AC Battery storage solution products are accounted for under the fair value method of accounting.

Commitments and Contingencies

In the normal course of business, the Company is subject to loss contingencies and loss recoveries, such as legal proceedings and claims arising out of its business as well as tariff refunds. An accrual for a loss contingency or loss recovery is recognized when it is probable and the amount of loss or recovery can be reasonably estimated.

Research and Development Costs

The Company expenses research and development costs as incurred. Research and development expense consists primarily of product development personnel costs, including salaries and benefits, stock-based compensation, other professional costs and allocated facilities costs.

Stock-Based Compensation

Share-based payments are required to be recognized in the Company's consolidated statements of operations based on their fair values and the estimated number of shares expected to vest. The Company measures stock-based compensation expense for all share-based payment awards, including stock options made to employees and directors, based on the estimated fair values on the date of the grant. The fair value of stock options granted is estimated using the Black-Scholes option valuation model. The fair value of restricted stock units granted is determined based on the price of the Company's common stock on the date of grant. The fair value of non-market-based performance stock units granted is determined based on the date of grant or when achievement of performance is probable. The fair value of market-based performance stock units granted is determined using a Monte-Carlo model based on the date of grant or when achievement of performance is probable.

Stock-based compensation for stock options and restricted stock units (“RSUs”) is recognized on a straight-line basis over the requisite service period. Stock-based compensation for performance stock units (“PSUs”) without market conditions is recognized when the performance condition is probable of being achieved, and then on a graded basis over the requisite service period. Stock-based compensation for PSUs with market conditions is recognized on a straight-line basis over the requisite service period. Additionally, the Company estimates its forfeiture rate annually based on historical experience and revise the estimates of forfeiture in subsequent periods if actual forfeitures differ from those estimates.

Leases

The Company determines if an arrangement is or contains a lease at inception. Operating lease assets represent the Company’s right to use an underlying asset for the lease term and lease liabilities represent the Company’s obligation to make lease payments over the lease term.

Operating lease assets and liabilities are recognized based on the present value of the remaining lease payments discounted using the Company’s incremental borrowing rate. Operating lease assets also include initial direct costs incurred and prepaid lease payments, minus any lease incentives. The Company’s lease terms include options to extend or terminate the lease when it is reasonably certain that the Company will exercise that option. Lease expense is recognized on a straight-line basis over the lease term.

The Company combines the lease and non-lease components in determining the operating lease assets and liabilities.

Foreign Currency Translation

The Company and most of its subsidiaries use their respective local currency as their functional currency. Accordingly, foreign currency assets and liabilities are translated using exchange rates in effect at the end of the period. Aggregate exchange gains and losses arising from the translation of foreign assets and liabilities are included in accumulated other comprehensive income (loss) in stockholders' equity. Foreign subsidiaries that use the U.S. dollar as their functional currency remeasure monetary assets and liabilities using exchange rates in effect at the end of the period. In addition, transactions that are denominated in non-functional currency are remeasured using exchange rates in effect at the end of the period. Exchange gains and losses arising from the remeasurement of monetary assets and liabilities are included in other income (expense), net in the consolidated statements of operations. Non-monetary assets and liabilities are carried at their historical values.

Comprehensive Income (Loss)

Comprehensive income (loss) consists of two components, net income (loss) and other comprehensive income (loss). Other comprehensive income (loss) refers to gains and losses that are recorded as an element of stockholders’ equity but are excluded from net income (loss). The Company’s other comprehensive income (loss) consists of foreign currency translation adjustments for all periods presented.

Income Taxes

The Company records income taxes using the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected tax consequences of temporary differences between the tax bases of assets and liabilities for financial reporting purposes and amounts recognized for income tax purposes. In estimating future tax consequences, generally all expected future events other than enactments or changes in the tax law or rates are considered. Valuation allowances are provided when necessary to reduce deferred tax assets to the amount expected to be realized.

The Company assesses the realizability of the deferred tax assets to determine release of valuation allowance as necessary. In the event the Company determines that it is more likely than not that we would be able to realize deferred tax assets in the future in excess of our net recorded amount, an adjustment to the valuation allowance for the deferred tax asset would increase income in the period such determination was made. Likewise, should it be determined that additional amounts of the net deferred tax asset will not be realized in the future, an adjustment to increase the deferred tax asset valuation allowance will be charged to income in the period such determination is made.

The Company operates in various tax jurisdictions and is subject to audit by various tax authorities. The Company follows accounting for uncertainty in income taxes which requires that the tax effects of a position be recognized only if it is "more likely than not" to be sustained based solely on its technical merits as of the reporting date. The Company considers many factors when evaluating and estimating its tax positions and tax benefits, which may require periodic adjustments and which may not accurately anticipate actual outcomes.

Recently Adopted Accounting Pronouncements

In August 2018, the FASB issued ASU 2018-15, "Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract," to reduce diversity in practice in accounting for the costs of implementing cloud computing arrangements that are service contracts. ASU 2018-15 allows entities to apply the guidance in the ASC 350-40, "Intangibles–Goodwill and Other–Internal-Use Software," to determine which implementation costs are eligible to be capitalized as assets in a cloud computing arrangement that is considered a service contract. ASU 2018-15 is effective for fiscal years beginning after December 15, 2019, and interim periods within those fiscal years. Early adoption is permitted, including adoption in any interim period. Entities have the option to apply the guidance prospectively to all implementation costs incurred after the date of adoption or retrospectively and are required to make certain disclosures in the interim and annual period of adoption. The Company adopted the new standard effective January 1, 2020 on a prospective basis and the adoption of this guidance did not have a material impact on its consolidated financial statements.

In June 2016, the FASB issued ASU 2016-13, "Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments," which requires the measurement and recognition of expected credit losses for financial assets held at amortized cost. ASU 2016-13 replaces the existing incurred loss impairment model with a current expected credit loss (CECL) model which will result in earlier recognition of credit losses. On January 1, 2020, the Company on a prospective basis adopted Topic 326, the measurement of expected credit losses under the CECL model is applicable to financial assets measured at amortized cost, including accounts receivable. The adoption of this guidance did not have a material impact on the Company's consolidated financial statements.

Recently Issued Accounting Pronouncements Not Yet Effective

In August 2020, the FASB issued Account Standard Update ("ASU") 2020-06, "Debt - Debt with Conversion and Other Options (subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (subtopic 815-40)," which reduces the number of accounting models in ASC 470-20 that require separate accounting for embedded conversion features. As a result, a convertible debt instrument will be accounted for as a single liability measured at its amortized cost as long as no other features require bifurcation and recognition as derivatives. By removing those separation models, the effective interest rate of convertible debt instruments will be closer to the coupon interest rate. Further, the diluted net income per share calculation for convertible instruments will require the Company to use the if-converted method. The treasury stock method should no longer be used to calculate diluted net income per share for convertible instruments. The amendment will be effective for the Company with annual periods beginning January 1, 2022 and early adoption is permitted. The Company is evaluating the accounting, transition and disclosure requirements of the standard.

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

3. REVENUE RECOGNITION

Disaggregated Revenue

The Company has one business activity, which is the design, manufacture and sale of solutions for the solar photovoltaic ("PV") industry. Disaggregated revenue by primary geographical market and timing of revenue recognition for the Company's single product line are as follows:

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Primary geographical markets:		
U.S.	$ 637,879	$ 523,577
International	136,546	100,756
Total	$ 774,425	$ 624,333
Timing of revenue recognition:		
Products delivered at a point in time	$ 728,254	$ 584,556
Products and services delivered over time	46,171	39,777
Total	$ 774,425	$ 624,333

Contract Balances

Receivables, and contract assets and contract liabilities from contracts with customers are as follows:

	December 31, 2020	December 31, 2019
	(In thousands)	
Receivables	$ 182,165	$ 145,413
Short-term contract assets (Prepaid expenses and other assets)	17,879	15,055
Long-term contract assets (Other assets)	51,986	42,087
Short-term contract liabilities (Deferred revenues)	47,665	81,783
Long-term contract liabilities (Deferred revenues)	125,473	100,204

The Company receives payments from customers based upon contractual billing schedules. Accounts receivable are recorded when the right to consideration becomes unconditional. Contract assets include deferred product costs and commissions associated with the deferred revenue and will be amortized along with the associated revenue. The Company had no asset impairment charges related to contract assets in the year ended December 31, 2020.

Significant changes in the balances of contract assets (prepaid expenses and other assets) during the period are as follows (in thousands):

Contract Assets	
Balance on December 31, 2019	$ 57,142
Amount recognized	(17,652)
Increase	30,375
Balance as of December 31, 2020	$ 69,865

Contract liabilities are recorded as deferred revenue on the accompanying consolidated balance sheets and include payments received in advance of performance obligations under the contract and are realized when the associated revenue is recognized under the contract.

Significant changes in the balances of contract liabilities (deferred revenues) during the period are as follows (in thousands):

Contract Liabilities	
Balance on December 31, 2019	$ 181,987
Revenue recognized	(87,555)
Increase due to billings	78,706
Balance as of December 31, 2020	$ 173,138

Remaining Performance Obligations

Estimated revenue expected to be recognized in future periods related to performance obligations that are unsatisfied or partially unsatisfied at the end of the reporting period are as follows:

	December 31, 2020
	(In thousands)
Fiscal year:	
2021	$ 47,665
2022	38,402
2023	32,569
2024	27,311
2025	20,291
Thereafter	6,900
Total	$ 173,138

4. INVENTORY

Inventory consist of the following:

	December 31, 2020	December 31, 2019
	(In thousands)	
Raw materials	$ 10,140	$ 4,197
Finished goods	31,624	27,859
Total inventory	$ 41,764	$ 32,056

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

5. PROPERTY AND EQUIPMENT, NET

Property and equipment consist of the following:

	Estimated Useful Life	December 31, 2020	December 31, 2019
	(Years)	(In thousands)	
Equipment and machinery	3-10	$ 63,411	$ 48,114
Furniture and fixtures	5-10	2,532	2,404
Computer equipment	3-5	2,972	1,698
Capitalized software costs	3-5	17,004	11,656
Leasehold improvements	3-10	9,021	8,713
Construction in process		9,747	8,446
Total		104,687	81,031
Less accumulated depreciation and amortization		(61,702)	(52,095)
Property and equipment, net		$ 42,985	$ 28,936

Depreciation expense for property and equipment for the years ended December 31, 2020, 2019 and 2018 was $9.7 million, $7.3 million and $8.3 million, respectively.

As of December 31, 2020 and 2019, unamortized capitalized software costs were $4.8 million and $0.8 million, respectively.

6. GOODWILL AND INTANGIBLE ASSETS

The Company's goodwill and purchased intangible assets as of December 31, 2020 and December 31, 2019 are as follows:

	December 31, 2020				December 31, 2019		
	Gross	Additions	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
			(In thousands)				
Goodwill	$ 24,783	$ —	$ —	$ 24,783	$ 24,783	$ —	$ 24,783
Intangible assets:							
Other indefinite-lived intangibles	286	—	—	286	286	—	286
Intangible assets with finite lives:							
Developed technology	13,100	—	(5,276)	7,824	13,100	(3,093)	10,007
Customer relationships	23,100	3,321	(5,723)	20,698	23,100	(2,814)	20,286
Total purchased intangible assets	$ 36,486	$ 3,321	$ (10,999)	$ 28,808	$ 36,486	$ (5,907)	$ 30,579

Amortization expense related to finite-lived intangible assets are as follows:

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Developed technology, and patents and licensed technology	$ 2,183	$ 2,184
Customer relationships	2,909	2,543
Total amortization expense	$ 5,092	$ 4,727

Amortization of developed technology, patents and licensed technology is recorded to sales and marketing expense. The developed technology acquired from the Company's acquisition of SunPower Corporation's ("SunPower") microinverter business in August 2018 was embedded in the microinverters that SunPower sold to its customers. The Company does not actively use the developed technology acquired from SunPower and holds the developed technology to prevent others from using it. Accordingly, the Company accounts for the developed technology as a defensive intangible asset and amortizes the associated value over a period of six years from the date of acquisition.

The master supply agreement ("MSA") entered into with SunPower in August 2018 provides the Company with the exclusive right to supply SunPower with module level power electronics for a period of five years, with options for renewals. The exclusivity arrangement extends throughout the term of the MSA, which comprises all of the expected cash flows from the customer relationship intangible asset, and was a condition to, and was an essential part of the acquisition of SunPower's microinverter business by the Company. As the original $23.1 million fair value ascribed to the customer relationship intangible asset represents payments to a customer, the Company amortizes the value of the customer relationship intangible asset as a reduction to revenue using a pattern of economic benefit method over a useful life of nine years. During the fourth quarter of 2020, the Company signed an amendment to the MSA which increased the period of exclusive right to supply by another three months, and the associated incremental non-cash $3.3 million fair value of equity is added to the customer relationship intangible asset will follow the same amortization pattern.

7. ACCRUED LIABILITIES

Accrued liabilities consist of the following:

	December 31, 2020	December 31, 2019
	(In thousands)	
Salaries, commissions, incentive compensation and benefits	$ 6,634	$ 5,524
Customer rebates and sales incentives	36,622	24,198
Freight	10,300	4,908
Operating lease liabilities, current	4,542	3,170
Liability due to supply agreements	5,500	1,729
Other	12,944	7,563
Total accrued liabilities	$ 76,542	$ 47,092

8. WARRANTY OBLIGATIONS

The Company's warranty activities were as follows:

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Warranty obligations, beginning of period	$ 37,098	$ 31,294	$ 29,816
Accruals for warranties issued during period	7,021	5,244	3,040
Changes in estimates	9,954	8,591	6,515
Settlements	(12,811)	(10,881)	(8,579)
Increase due to accretion expense	3,255	2,326	1,989
Other	1,396	524	(1,487)
Warranty obligations, end of period	45,913	37,098	31,294
Less: current portion	(11,260)	(10,078)	(8,083)
Noncurrent	$ 34,653	$ 27,020	$ 23,211

Changes in Estimates

On a quarterly basis, the Company uses the best and most complete underlying information available, following a consistent, systematic and rational methodology to determine its warranty obligations. The Company considers all available evidence to assess the reasonableness of all key assumptions underlying its estimated warranty obligations for each generation of microinverter. The changes in estimates discussed below resulted from consideration of new or additional information becoming available and subsequent developments. Changes in estimates included in the table above were comprised of the following:

2020

In 2020, the Company recorded a $8.8 million increase to warranty expense based on continuing analysis of field performance data and diagnostic root-cause failure analysis primarily relating to its prior generation products. The Company also recorded additional warranty expense of $1.2 million related to unit costs for prior generation microinverter replacement driven by tariffs and labor reimbursement costs expected to be paid to third party installers performing replacement services.

2019

In 2019, the Company recorded a $5.5 million increase to warranty expense related to cost increases primarily driven by increased U.S. tariffs announced during 2019 for its products manufactured in China. The Company also recorded additional warranty expense of $3.1 million based on continuing analysis of field performance data and diagnostic root-cause failure analysis primarily relating to its second and third generation products, partially offset by improved failure rates for its IQ7 series.

2018

In 2018, the Company recorded a $0.9 million increase to warranty expense related to cost increases primarily for backwards compatibility cables, supply constrained inventory components as well as tariffs. The Company also recorded additional warranty expense of $3.3 million based on continuing analysis of field performance data and diagnostic root-cause failure analysis primarily relating to its second and third generation products. In addition, the Company recorded an increase of $2.1 million related to increased estimated claim rates and an increase to warranty expense of $0.2 million for labor reimbursement costs expected to be paid to third party installers performing replacement services. These increases were partially offset by a $1.5 million reduction to warranty expense, presented as “Other” in the table above, related to changes in the discount rates for fair value accounting.

9. FAIR VALUE MEASUREMENTS

The accounting guidance defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities recorded at fair value, the Company considers the principal or most advantageous market in which it would transact and considers assumptions that market participants would use when pricing the asset or liability, such as inherent risk, transfer restrictions, and risk of nonperformance.

The fair value hierarchy requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. An asset’s or liability’s categorization within the fair value hierarchy is based upon the lowest level of input that is significant to the fair value measurement. Three levels of inputs may be used to measure fair value:

- Level 1 - Valuations based on quoted prices in active markets for identical assets or liabilities that the Company is able to access. Since valuations are based on quoted prices that are readily and regularly available in an active market, valuation of such assets or liabilities do not entail a significant degree of judgment.
- Level 2 - Valuations based on one or more quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.
- Level 3 - Valuations based on inputs that are unobservable and significant to the overall fair value measurement.

Level 1. The Company considers all highly liquid investments, such as certificates of deposit and money market instruments with maturities of three months or less at the time of acquisition to be cash equivalents. For all periods presented, its cash balances consist of amounts held in non-interest-bearing and interest-bearing deposits and money market accounts and are within Level 1 of the fair value hierarchy because they are valued using quoted market prices for identical instruments in active markets. As of December 31, 2020, cash and cash equivalents balance includes money market funds of $654.7 million.

Level 2.

Convertible Notes due 2025 Derivatives.

On March 9, 2020, the Company issued $320 million aggregate principal amount of 0.25% convertible senior notes due 2025 (the "Notes due 2025"). Concurrently with the issuance of Notes due 2025, the Company entered into privately-negotiated convertible note hedge and warrant transactions which in combination are intended to reduce the potential dilution from the conversion of the Notes due 2025. On May 20, 2020, at the Company's annual meeting of stockholders, the stockholders approved an amendment to its certificate of incorporation to increase the number of authorized shares of the Company's common stock. As a result, the Company satisfied the share reservation condition (as defined in the relevant indenture associated with the Notes due 2025). The Company will now be able to settle the Notes due 2025, convertible notes hedge and warrants through payment or delivery, as the case may be, of cash, shares of its common stock or a combination thereof, at the Company's election. Accordingly, on May 20, 2020, the embedded derivative liability, convertible notes hedge and warrants liability were remeasured at a fair value of $116.3 million, $117.1 million and $96.4 million, respectively, and were then reclassified to additional paid-in-capital in the condensed consolidated balance sheet in the second quarter of 2020 and are no longer remeasured as long as they continue to meet the conditions for equity classification. See Note 11. "Debt" for additional information related to these transactions.

The fair value of the Convertible notes embedded derivative was estimated using Binomial Lattice model and the fair value of Convertible notes hedge and Warrants liability was estimated using Black-Scholes-Merton model. The significant observable inputs, either directly or indirectly, and assumptions used in the models to calculate the fair value of the derivatives include the Company's common stock price, exercise price of the derivatives, risk-free interest rate, volatility, annual coupon rate and remaining contractual term.

Notes due 2025 and *Notes due 2024.*

The Company carries the Notes due 2025 and Notes due 2024 (as defined below) at face value less unamortized discount and issuance costs on its consolidated balance sheets. The fair value of the Notes due 2025 and Notes due 2024 was $725.5 million and $747.1 million, respectively, as of December 31, 2020 based on the closing trading prices per $100 principal amount as of the last day of trading for the period. The Company considers the fair value of the Notes due 2025 and Notes due 2024 to be a Level 2 measurement as they are not actively traded.

Level 3.

Equity investments without readily determinable fair value.

In December 2020, the Company invested approximately $5.0 million in a privately-held company without readily determinable market value, which is included in "Other assets" in the consolidated balance sheet. The Company has elected the measurement alternative for equity investments that do not have readily determinable fair values. The Company did not record an impairment charge on its investment during the year ended December 31, 2020, as no events or changes in circumstances were identified which could result as an indicator for impairment. Further, there were no observable price changes in orderly transactions for the identical or a similar investment of the same issuer during the year ended December 31, 2020. Equity investments without readily determinable fair value are classified within Level 3 in the fair value hierarchy because the Company estimates the value based on valuation methods using a combination of observable and unobservable inputs including valuation ascribed to the issuing company in subsequent financing rounds, volatility in the results of operations of the issuers and rights and obligations of the securities the Company holds.

Warranty Obligations.

The following table presents the Company's warranty obligations that were measured at fair value on a recurring basis and its categorization within the fair value hierarchy.

	December 31, 2020	December 31, 2019
	(In thousands)	
	Level 3	Level 3
Liabilities:		
Warranty obligations		
Current	$ 8,267	$ 6,794
Non-current	20,469	13,012
Total warranty obligations measured at fair value	28,736	19,806
Total liabilities measured at fair value	**$ 28,736**	**$ 19,806**

Fair Value Option for Warranty Obligations Related to Microinverters and Other Products Sold Since January 1, 2014

The Company estimates the fair value of warranty obligations by calculating the warranty obligations in the same manner as for sales prior to January 1, 2014 and applying an expected present value technique to that result. The expected present value technique, an income approach, converts future amounts into a single current discounted amount. In addition to the key estimates of failure rates, claim rates and replacement costs, the Company used certain Level 3 inputs which are unobservable and significant to the overall fair value measurement. Such additional assumptions included a discount rate based on the Company's credit-adjusted risk-free rate and compensation comprised of a profit element and risk premium required of a market participant to assume the obligation.

The following table provides information regarding changes in nonfinancial liabilities related to the Company's warranty obligations measured at fair value on a recurring basis using significant unobservable inputs (Level 3) for the periods indicated.

	Years Ended December 31,		
	2020	2019	2018
		(In thousands)	
Balance at beginning of period	$ 19,806	$ 11,757	$ 9,791
Accruals for warranties issued during period	7,021	5,244	3,040
Changes in estimates	5,039	6,167	2,455
Settlements	(7,781)	(6,212)	(4,030)
Increase due to accretion expense	3,255	2,326	1,989
Other	1,396	524	(1,488)
Balance at end of period	$ 28,736	$ 19,806	$ 11,757

Quantitative and Qualitative Information about Level 3 Fair Value Measurements

As of December 31, 2020 and December 31, 2019, the significant unobservable inputs used in the fair value measurement of the Company's liabilities designated as Level 3 are as follows:

Item Measured at Fair Value	Valuation Technique	Description of Significant Unobservable Input	Percent Used (Weighted Average) December 31, 2020	Percent Used (Weighted Average) December 31, 2019
Warranty obligations for microinverters sold since January 1, 2014	Discounted cash flows	Profit element and risk premium	15%	14%
		Credit-adjusted risk-free rate	13%	16%

Sensitivity of Level 3 Inputs - Warranty Obligations

Each of the significant unobservable inputs is independent of the other. The profit element and risk premium are estimated based on requirements of a third-party participant willing to assume the Company's warranty obligations. The credit-adjusted risk-free rate ("discount rate") is determined by reference to the Company's own credit standing at the fair value measurement date. Increasing the profit element and risk premium input by 100 basis points would result in a $0.2 million increase to the liability. Decreasing the profit element and risk premium by 100 basis points would result in a $0.2 million reduction of the liability. Increasing the discount rate by 100 basis points would result in a $1.4 million reduction of the liability. Decreasing the discount rate by 100 basis points would result in a $1.6 million increase to the liability.

10. RESTRUCTURING

Restructuring expense consist of the following:

	Years Ended December 31, 2020	2019	2018
		(In thousands)	
Redundancy and employee severance and benefit arrangements	$ —	$ 1,575	$ 2,228
Asset impairments	—	1,124	1,601
Consultants engaged in restructuring activities	—	—	—
Lease loss reserves (benefit)	—	(100)	300
Total restructuring charges	$ —	$ 2,599	$ 4,129

2018 Plan

In the third quarter of 2018, the Company began implementing restructuring actions (the "2018 Plan") to lower its operating expenses. The restructuring actions include reorganization of the Company's global workforce, elimination of certain non-core projects and consolidation of facilities. The Company completed its restructuring activities under the 2018 Plan in 2019.

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The following table provides information regarding changes in the Company's 2018 Plan accrued restructuring balance for the periods indicated.

	Redundancy and Employee Severance and Benefits	Lease Loss Reserves and Contractual Obligations	Total
		(In thousands)	
Balance as of December 31, 2018	$ 904	$ 288	$ 1,192
Charges	2,699	—	2,699
Cash payments	(1,610)	—	(1,610)
Non-cash settlement and other	(1,993)	(288)	(2,281)
Balance as of December 31, 2019	$ —	$ —	$ —

The following table presents the details of the Company's restructuring charges under the 2018 Plan for the period indicated:

	Years Ended December 31,		
	2020	2019	2018
		(In thousands)	
Redundancy and employee severance and benefit arrangements	$ —	$ 1,575	$ 2,228
Asset impairments	—	1,124	1,636
Lease loss reserves (benefit)	—	(100)	340
Total restructuring charges	$ —	$ 2,599	$ 4,204

2016 Plan

In the third quarter of 2016, the Company began implementing restructuring actions (the "2016 Plan") to lower its operating expenses. The restructuring actions have included reductions in the Company's global workforce, the elimination of certain non-core projects, consolidation of office space at the Company's corporate headquarters and the engagement of management consultants to assist the Company in making organizational and structural changes to improve operational efficiencies and reduce expenses. The Company completed its restructuring activities under the 2016 Plan in 2017.

The following table provides information regarding changes in the Company's 2016 Plan accrued restructuring balance for the periods indicated.

	Employee Severance and Benefits	Asset Impairments	Lease Loss Reserves and Contractual Obligations	Total
		(In thousands)		
Balance as of December 31, 2018	—	—	$ 1,591	1,591
Other [1]	—	—	(1,591)	(1,591)
Balance as of December 31, 2019	$ —	$ —	$ —	$ —

(1) Adoption of ASU 2016-02 -Leases.

11. DEBT

The following table provides information regarding the Company's long-term debt.

	December 31, 2020	December 31, 2019
	(In thousands)	
Convertible notes		
Notes due 2025	$ 320,000	$ —
Less: unamortized discount and issuance costs	(64,979)	—
Carrying amount of Notes due 2025	255,021	—
Notes due 2024	88,140	132,000
Less: unamortized discount and issuance costs	(19,119)	(35,815)
Carrying amount of Notes due 2024	69,021	96,185
Notes due 2023	5,000	5,000
Less: unamortized issuance costs	(102)	(143)
Carrying amount of Notes due 2023	4,898	4,857
Sale of long-term financing receivable recorded as debt	1,925	4,501
Total carrying amount of debt	330,865	105,543
Less: current portion of convertible notes and long-term financing receivable recorded as debt	(325,967)	(2,884)
Long-term debt	$ 4,898	$ 102,659

Convertible Senior Notes due 2025

On March 9, 2020, the Company issued $320.0 million aggregate principal amount of the Notes due 2025. The Notes due 2025 are general unsecured obligations and bear interest at an annual rate of 0.25% per year, payable semi-annually on March 1 and September 1 of each year, beginning September 1, 2020. The Notes due 2025 are governed by an indenture between the Company and U.S. Bank National Association, as trustee. The Notes due 2025 will mature on March 1, 2025, unless earlier repurchased by the Company or converted at the option of the holders. The Company may not redeem the notes prior to the maturity date, and no sinking fund is provided for the notes. The Notes due 2025 may be converted, under certain circumstances as described below, based on an initial conversion rate of 12.2637 shares of common stock per $1,000 principal amount (which represents an initial conversion price of $81.54 per share). The conversion rate for the Notes due 2025 will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest. In addition, upon the occurrence of a make-whole fundamental change (as defined in the relevant indenture), the Company will, in certain circumstances, increase the conversion rate by a number of additional shares for a holder that elects to convert its notes in connection with such make-whole fundamental change. The Company received approximately $313.0 million in net proceeds, after deducting the initial purchasers' discount, from the issuance of the Notes due 2025.

The Notes due 2025 may be converted prior to the close of business on the business day immediately preceding September 1, 2024, in multiples of $1,000 principal amount, at the option of the holder only under the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on June 30, 2020 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the "trading price" (as defined in the relevant indenture) per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate events. On and after September 1, 2024 until the close of business on the second scheduled trading day immediately preceding the maturity date of March 1, 2025, holders may convert their notes at any time, regardless of the foregoing circumstances. Upon the occurrence of a fundamental change (as defined in the relevant indenture), holders may require the Company to repurchase all or a portion of their Notes due 2025 for cash at a price equal to 100% of the principal amount of the notes to be repurchased plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

As of December 31, 2020, the sale price of the Company's common stock was greater than or equal to $106.00 (130% of the notes conversion price) for at least 20 trading days (whether consecutive or not) during a period of 30 consecutive trading days preceding the quarter-ended December 31, 2020. As a result, as of December 31, 2020, the Notes due 2025 are convertible at the holders' option through March 31, 2021. Accordingly, the Company classified the net carrying amount of the Notes due 2025 of $255.0 million as Debt, current on the consolidated balance sheet as of December 31, 2020.

For the period from March 9, 2020, the issuance date, through May 19, 2020, the number of authorized and unissued shares of the Company's common stock that are not reserved for other purposes was less than the maximum number of underlying shares that would be required to settle the Notes due 2025 into equity. Accordingly, unless and until the Company had a number of authorized shares that were not issued or reserved for any other purpose that equaled or exceeded the maximum number of underlying shares ("share reservation condition"), the Company would be required to pay to the converting holder in respect of each $1,000 principal amount of notes being converted solely in cash in an amount equal to the sum of the daily conversion values for each of the 20 consecutive trading days during the related observation period. However, following satisfaction of the share reservation condition, the Company could settle conversions of notes through payment or delivery, as the case may be, of cash, shares of the Company's common stock or a combination of cash and shares of its common stock, at the Company's election.

In accounting for the issuance of the Notes due 2025, on March 9, 2020, the conversion option of the Notes due 2025 was deemed an embedded derivative requiring bifurcation from the Notes due 2025 ("host contract") and separate accounting as an embedded derivative liability, as a result of the Company not having the necessary number of authorized but unissued shares of its common stock available to settle the conversion option of the Notes due 2025 in shares. The proceeds from the Notes due 2025 were first allocated to the embedded derivative liability and the remaining proceeds were then allocated to the host contract. On March 9, 2020, the carrying amount of the embedded derivative liability of $68.7 million representing the conversion option was determined using the Binomial Lattice model and the remaining $251.3 million was allocated to the host contract. The difference between the principal amount of the Notes due 2025 and the fair value of the host contract (the "debt discount") is amortized to interest expense using the effective interest method over the term of the Notes due 2025.

On May 20, 2020, at the Company's annual meeting of stockholders, the stockholders approved an amendment to the Amended and Restated Certificate of Incorporation to increase the number of authorized shares of the Company's common stock, par value $0.00001 per share, from 150,000,000 shares to 200,000,000 shares (the "Amendment"). The Amendment became effective upon filing with the Secretary of State of Delaware on May 20, 2020. As a result, the Company satisfied the share reservation condition. The Company may now settle the Notes due 2025 and warrants issued in conjunction with the Notes due 2025 through payment or delivery, as the case may be, of cash, shares of its common stock or a combination of cash and shares of its common stock, at the Company's election. Accordingly, on May 20, 2020, the embedded derivative liability was remeasured at a fair value of $116.3 million and was then reclassified to additional paid-in-capital in the condensed consolidated balance sheet in the second quarter of 2020 and is no longer remeasured as long as it continues to meet the conditions for equity classification. The Company recorded the change in the fair value of the embedded derivative in other expense, net in the consolidated statement of operations during the year ended December 31, 2020.

The Company separated the Notes due 2025 into liability and equity components, this resulted in a tax basis difference associated with the liability component that represents a temporary difference. The Company recognized the deferred taxes of $0.2 million for the tax effect of that temporary difference as an adjustment to the equity component included in additional paid-in capital in the consolidated balance sheet.

The following table presents the fair value and the change in fair value for the convertible note embedded derivative (in thousands):

Convertible note embedded derivative liability	
Fair value as of March 9, 2020	$ 68,700
Change in the fair value	47,600
Fair value as of May 20, 2020	$ 116,300

Debt issuance costs for the issuance of the Notes due 2025 were approximately $7.6 million, consisting of initial purchasers' discount and other issuance costs. In accounting for the transaction costs, the Company allocated the total amount incurred to the Notes due 2025 host contract. Transaction costs were recorded as debt issuance cost (presented as contra debt in the consolidated balance sheet) and are being amortized to interest expense over the term of the Notes due 2025.

The following table presents the total amount of interest cost recognized relating to the Notes due 2025 (in thousands):

	Year Ended December 31, 2020
Contractual interest expense	$ 649
Amortization of debt discount	10,072
Amortization of debt issuance costs	1,229
Total interest cost recognized	$ 11,950

The derived effective interest rate on the Notes due 2025 host contract was determined to be 5.18%, which remain unchanged from the date of issuance. The remaining unamortized debt discount was $58.6 million as of December 31, 2020, and will be amortized over approximately 4.2 years.

Notes due 2025 Hedge and Warrant Transactions

In connection with the offering of the Notes due 2025, the Company entered into privately-negotiated convertible note hedge transactions pursuant to which the Company has the option to purchase a total of approximately 3.9 million shares of its common stock (subject to anti-dilution adjustments), which is the same number of shares initially issuable upon conversion of the notes, at a price of $81.54 per share, which is the initial conversion price of the Notes due 2025. The total cost of the convertible note hedge transactions was approximately $89.1 million. The convertible note hedge transactions are expected generally to reduce potential dilution to the Company's common stock upon any conversion of the Notes due 2025 and/or offset any cash payments the Company is required to make in excess of the principal amount of converted notes, as the case may be. As of December 31, 2020, the Company had not purchased any shares under the convertible note hedge transactions.

Additionally, the Company separately entered into privately-negotiated warrant transactions (the "Warrants") whereby the Company sold warrants to acquire approximately 3.9 million shares of the Company's common stock (subject to anti-dilution adjustments) at an initial strike price of $106.94 per share. The Company received aggregate proceeds of approximately $71.6 million from the sale of the Warrants. If the market value per share of the Company's common stock, as measured under the Warrants, exceeds the strike price of the Warrants, the Warrants will have a dilutive effect on the Company's earnings per share, unless the Company elects, subject to certain conditions, to settle the Warrants in cash. Taken together, the purchase of the convertible note hedges and the sale of the Warrants are intended to reduce potential dilution from the conversion of the Notes due 2025 and to effectively increase the overall conversion price from $81.54 to $106.94 per share. The Warrants are only exercisable on the applicable expiration dates in accordance with the agreements relating to each of the Warrants. Subject to the other terms of the Warrants, the first expiration date applicable to the Warrants is June 1, 2025, and the final expiration date applicable to the Warrants is September 23, 2025. As of December 31, 2020, the Warrants had not been exercised and remained outstanding.

For the period from March 9, 2020, the issuance date of the convertible notes hedge and warrant transactions, through May 19, 2020, the number of authorized and unissued shares of the Company's common stock that are not reserved for other purposes was less than the maximum number of underlying shares that will be required to settle the Notes due 2025 through the delivery of shares of the Company's common stock. Accordingly, the convertibles note hedge and the warrant transactions could only be settled on net cash settlement basis. As a result the convertible note hedge and the warrants transaction were classified as a Convertible notes hedge asset and Warrants liability, respectively, in the consolidated balance sheet and the change in fair value of derivatives was included in other expense, net in the consolidated statement of operations.

On May 20, 2020, at the Company's annual meeting of stockholders, the stockholders approved the Amendment, and as a result, the Convertible notes hedge asset and Warrants liabilities were remeasured at a fair value of $117.1 million and $96.4 million, respectively, and were then reclassified to additional paid-in-capital in the condensed consolidated balance sheet in the second quarter of 2020 and is no longer remeasured as long as they continue to meet the conditions for equity classification. The change in the fair value of the Convertible notes hedge asset and Warrants liability were recorded in other expense, net in the consolidated statements of operations during the year ended December 31, 2020.

The following table presents the fair value and the change in fair value for the Convertible notes hedge asset and Warrants liability:

	Convertible notes hedge	Warrants liability
	(In thousands)	
Fair value as of March 9, 2020	$ 89,056	$ 71,552
Change in the fair value	28,052	24,799
Fair value as of May 20, 2020	$ 117,108	$ 96,351

Convertible Senior Notes due 2024

On June 5, 2019, the Company issued $132.0 million aggregate principal amount of 1.0% convertible senior notes due 2024 (the "Notes due 2024"). The Notes due 2024 are general unsecured obligations and bear interest at an annual rate of 1.0% per year, payable semi-annually on June 1 and December 1 of each year, beginning December 1, 2019. The Notes due 2024 are governed by an indenture between the Company and U.S. Bank National Association, as trustee. The Notes due 2024 will mature on June 1, 2024, unless earlier repurchased by the Company or converted at the option of the holders. The Company may not redeem the notes prior to the maturity date, and no sinking fund is provided for the notes. The Notes due 2024 may be converted, under certain circumstances as described below, based on an initial conversion rate of 48.7781 shares of common stock per $1,000 principal amount (which represents an initial conversion price of $20.5010 per share). The conversion rate for the Notes due 2024 will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest. In addition, upon the occurrence of a make-whole fundamental change (as defined in the relevant indenture), the Company will, in certain circumstances, increase the conversion rate by a number of additional shares for a holder that elects to convert its notes in connection with such make-whole fundamental change. The Company received approximately $128.0 million in net proceeds, after deducting the initial purchasers' discount, from the issuance of the Notes due 2024.

The Notes due 2024 may be converted on any day prior to the close of business on the business day immediately preceding December 1, 2023, in multiples of $1,000 principal amount, at the option of the holder only under any of the following circumstances: (1) during any calendar quarter commencing after the calendar quarter ending on September 30, 2019 (and only during such calendar quarter), if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter is greater than or equal to $26.6513 (130% of the conversion price) on each applicable trading day; (2) during the five business day period after any five consecutive trading day period (the "measurement period") in which the "trading price" (as defined in the relevant indenture) per $1,000 principal amount of notes for each trading day of the measurement period was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or (3) upon the occurrence of specified corporate events. On and after December 1, 2023 until the close of business on the second scheduled trading day immediately preceding the maturity date of June 1, 2024, holders may convert their notes at any time, regardless of the foregoing circumstances. Upon the occurrence of a fundamental change (as defined in the relevant indenture), holders may require the Company to repurchase all or a portion of their Notes due 2024 for cash at a price equal to 100% of the principal amount of the notes to be repurchased plus any accrued and unpaid interest to, but excluding, the fundamental change repurchase date.

As of December 31, 2020, the sale price of the Company's common stock was greater than or equal to $26.6513 (130% of the notes conversion price) for at least 20 trading days (whether consecutive or not) during a period of 30 consecutive trading days preceding the quarter-ended December 31, 2020. As a result, as of December 31, 2020, the Notes due 2024 are convertible at the holders' option through March 31, 2021. Accordingly, the Company classified the net carrying amount of the Notes due 2024 of $69.0 million as Debt, current on the consolidated balance sheet as of December 31, 2020. From January 1, 2021 through February 12, 2021, the Company has received the request for conversion of approximately $61.5 million in principal amount of Notes due 2024, of which the Company has elected to settle the aggregate principal amount of the Notes due 2024 in a combination of cash and any excess in shares of the Company's common stock in accordance with the applicable indenture. Such conversion will be settled in March 2021.

In accounting for the issuance of the Notes due 2024, on June 5, 2019, the Company separated the Notes due 2024 into liability and equity components. The carrying amount of the liability component of approximately $95.6 million was calculated by using a discount rate of 7.75%, which was the Company's borrowing rate on the date of the issuance of the notes for a similar debt instrument without the conversion feature. The carrying amount of the equity component of approximately $36.4 million, representing the conversion option, was determined by deducting the fair value of the liability component from the par value of the Notes due 2024. The equity component of the Notes due 2024 is included in additional paid-in capital in the consolidated balance sheet and is not remeasured as long as it continues to meet the conditions for equity classification. The difference between the principal amount of the Notes due 2024 and the liability component (the "debt discount") is amortized to interest expense using the effective interest method over the term of the Notes due 2024.

The Company separated the Notes due 2024 into liability and equity components, this resulted in a tax basis difference associated with the liability component that represents a temporary difference. The Company recognized the deferred taxes of $0.3 million for the tax effect of that temporary difference as an adjustment to the equity component included in additional paid-in capital in the consolidated balance sheet.

Debt issuance costs for the issuance of the Notes due 2024 were approximately $4.6 million, consisting of initial purchasers' discount and other issuance costs. In accounting for the transaction costs, the Company allocated the total amount incurred to the liability and equity components using the same proportions as the proceeds from the Notes due 2024. Transaction costs attributable to the liability component were approximately $3.3 million, were recorded as debt issuance cost (presented as contra debt in the consolidated balance sheet) and are being amortized to interest expense over the term of the Notes due 2024. The transaction costs attributable to the equity component were approximately $1.3 million and were netted with the equity component in stockholders' equity. As of December 31, 2020 and 2019, the unamortized deferred issuance cost for the Notes due 2024 was $1.5 million and $2.9 million, respectively, on the consolidated balance sheets.

During the fourth quarter of 2020, holders converted $43.9 million in aggregate principal amount of the Notes due 2024, the principal amount of which was repaid in cash. Of the $43.9 million in aggregate principal amount, $38.5 million in aggregate principal amount was settled pursuant to an exchange agreement entered into in December 2020 with certain holders of Notes due 2024. The Company also issued 1.9 million shares of its common stock to the holders with an aggregate fair value of $301.0 million, representing the conversion value in excess of the principal amount of the Notes due 2024, which were fully offset by shares received from the Company's exercise of the associated note hedging arrangements discussed below. The total amount of $43.9 million paid to partially settle the Notes due 2024 was allocated between the liability and equity components of the amount extinguished by determining the fair value of the liability component immediately prior to the notes settlement and allocating that portion of the conversion price to the liability component in the amount of $37.2 million. The residual of the conversion price of $6.7 million was allocated to the equity component of the Notes due 2024 as a reduction of additional paid-in capital. The fair value of the notes settlement was calculated using a discount rate of 5.75%, representing an estimate of the Company's borrowing rate at the date of repurchase with a remaining expected life of approximately 3.6 years. As part of the settlement, the Company wrote-off the $8.9 million unamortized debt discount and $0.8 million debt issuance cost apportioned to the principal amount of Notes due 2024 settled. The Company also recorded a loss on partial settlement of the Notes due 2024 of $3.0 million in Other expense, net, representing the difference between the consideration attributed to the liability component and the sum of the net carrying amount of the liability component and unamortized debt issuance costs. As of December 31, 2020, $88.1 million aggregate principal amount of the Notes due 2024 remains outstanding.

The following table presents the total amount of interest cost recognized in the statement of operations relating to the Notes due 2024:

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Contractual interest expense	$ 1,284	$ 759
Amortization of debt discount	6,325	3,492
Amortization of debt issuance costs	646	375
Total interest cost recognized	$ 8,255	$ 4,626

The effective interest rate on the liability component Notes due 2024 was 7.75% for the year ended December 31, 2020, which remains unchanged from the date of issuance. The remaining unamortized debt discount was $17.6 million and $32.9 million as of December 31, 2020 and December 31, 2019, respectively, and will be amortized over approximately 3.4 years from December 31, 2020.

Notes due 2024 Hedge and Warrant Transactions

In connection with the offering of the Notes due 2024, the Company entered into privately-negotiated convertible note hedge transactions pursuant to which the Company has the option to purchase a total of approximately 6.4 million shares of its common stock (subject to anti-dilution adjustments), which is the same number of shares initially issuable upon conversion of the notes, at a price of $20.5010 per share, which is the initial conversion price of the Notes due 2024. The total cost of the convertible note hedge transactions was approximately $36.3 million. The convertible note hedge transactions are expected generally to reduce potential dilution to the Company's common stock upon any conversion of the Notes due 2024 and/or offset any cash payments the Company is required to make in excess of the principal amount of converted notes, as the case may be.

As a result of the conversion request received from the holders of $43.9 million in aggregate principal amount of the Notes due 2024 in the fourth quarter of 2020, the Company exercised the 2.1 million shares representing proportionate number of the convertible note hedge transaction and received 1.9 million shares on net basis of its common stock during the period. As of December 31, 2020, option to purchase a total of approximately 4.3 million shares remain outstanding.

Additionally, the Company separately entered into privately-negotiated warrant transactions (the "Warrants") whereby the Company sold warrants to acquire approximately 6.4 million shares of the Company's common stock (subject to anti-dilution adjustments) at an initial strike price of $25.2320 per share. The Company received aggregate proceeds of approximately $29.8 million from the sale of the Warrants. If the market value per share of the Company's common stock, as measured under the Warrants, exceeds the strike price of the Warrants, the Warrants will have a dilutive effect on the Company's earnings per share, unless the Company elects, subject to certain conditions, to settle the Warrants in cash. Taken together, the purchase of the convertible note hedges and the sale of the Warrants are intended to reduce potential dilution from the conversion of the Notes due 2024 and to effectively increase the overall conversion price from $20.5010 to $25.2320 per share. The Warrants are only exercisable on the applicable expiration dates in accordance with the Warrants. Subject to the other terms of the Warrants, the first expiration date applicable to the Warrants is September 1, 2024, and the final expiration date applicable to the Warrants is April 22, 2025.

During the fourth quarter of 2020, the Company entered into partial unwind agreements to unwind number of warrants exercisable under the note hedge arrangements and to issue approximately 2.1 million Warrants on a net basis, resulting in a net issuance of approximately 1.9 million shares of the Company's common stock in connection with the exchange of the Notes due 2024. As of December 31, 2020, Warrants exercisable to purchase a total of approximately 4.3 million shares remains outstanding.

Given that the transactions meet certain accounting criteria, the Notes due 2024 hedge and the warrants transactions are recorded in stockholders' equity, and they are not accounted for as derivatives and are not remeasured each reporting period.

Convertible Senior Notes due 2023

In August 2018, the Company sold $65.0 million aggregate principal amount of 4.0% convertible senior notes due 2023 (the "Notes due 2023") in a private placement. On May 30, 2019, the Company entered into separately and privately negotiated transactions with certain holders of the Notes due 2023 resulting in the repurchase and exchange, as of June 5, 2019, of $60.0 million aggregate principal amount of the notes in consideration for the issuance of 10,801,080 shares of common stock and separate cash payments totaling $6.0 million. As of both December 31, 2020 and December 31, 2019, $5.0 million aggregate principal amount of the Notes due 2023 remains outstanding.

The remaining outstanding Notes due 2023 are general unsecured obligations and bear interest at a rate of 4.0% per year, payable semi-annually on February 1 and August 1 of each year. The Notes due 2023 are governed by an indenture between the Company and U.S. Bank National Association, as trustee. The remaining outstanding Notes due 2023 will mature on August 1, 2023, unless earlier repurchased by the Company or converted at the option of the holders. The Company may not redeem the remaining Notes due 2023 prior to the maturity date, and no sinking fund is provided for such notes. The remaining Notes due 2023 are convertible, at a holder's election, in multiples of $1,000 principal amount, into shares of the Company's common stock based on the applicable conversion rate. The initial conversion rate for such notes is 180.0180 shares of common stock per $1,000 principal amount of notes (which is equivalent to an initial conversion price of approximately $5.56 per share). The conversion rate and the corresponding conversion price are subject to adjustment upon the occurrence of certain events but will not be adjusted for any accrued and unpaid interest. Holders of the remaining Notes due 2023 who convert their notes in connection with a make-whole fundamental change (as defined in the applicable indenture) are, under certain circumstances, entitled to an increase in the conversion rate. Additionally, in the event of a fundamental change, holders of the remaining Notes due 2023 may require the Company to repurchase all or a portion of their notes at a price equal to 100% of the principal amount of notes, plus any accrued and unpaid interest, including any additional interest to, but excluding, the repurchase date. Holders may convert all or any portion of their Notes due 2023 at their option at any time prior to the close of business on the business day immediately preceding the maturity date, in multiples of $1,000 principal amount.

The following table presents the amount of interest cost recognized relating to the contractual interest coupon and the amortization of debt issuance costs of the Notes due 2023.

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Contractual interest expense	$ 200	$ 1,226
Amortization of debt issuance costs	40	245
Total interest costs recognized	$ 240	$ 1,471

Sale of Long-Term Financing Receivables

The Company entered into an agreement with a third party in the fourth quarter of 2017 to sell certain current and future receivables at a discount. In December 2017, the third party made an initial purchase of receivables that resulted in net proceeds to the Company of $2.8 million. This transaction was recorded as debt on the accompanying consolidated balance sheets, and the debt balance was relieved in January 2019 as the underlying receivables were settled. During the year ended December 31, 2018, the third party made three additional purchases of receivables that resulted in total net proceeds to the Company of $5.6 million. These transactions were recorded as debt on the accompanying consolidated balance sheets, and the total associated debt balance will be relieved by September 2021 as the underlying receivables are settled. As of December 31, 2020, the total sale of long-term financing receivable recorded as debt of $1.9 million remains outstanding.

12. COMMITMENTS AND CONTINGENCIES

Operating Leases

The Company leases office facilities under noncancelable operating leases that expire on various dates through 2031, some of which may include options to extend the leases for up to 12 years.

The components of lease expense are presented as follows:

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Operating lease costs	$ 5,332	$ 4,041

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The components of lease liabilities are presented as follows:

	December 31, 2020	December 31, 2019
	(In thousands)	
Operating lease liabilities, current (Accrued liabilities)	$ 4,542	$ 3,170
Operating lease liabilities, noncurrent (Other liabilities)	15,209	9,542
Total operating lease liabilities	$ 19,751	$ 12,712
Supplemental lease information:		
Weighted average remaining lease term	6.4 years	5.5 years
Weighted average discount rate	7.7%	8.6%

Supplemental cash flow and other information related to operating leases, are as follows:

	Years Ended December 31,	
	2020	2019
	(In thousands)	
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 4,762	$ 3,636
Non-cash investing activities:		
Lease liabilities arising from obtaining right-of-use assets	$ 10,625	$ 4,834

Undiscounted cash flows of operating lease liabilities as of December 31, 2020 are as follows:

	Lease Amounts
	(In thousands)
Year:	
2021	$ 5,830
2022	4,677
2023	4,056
2024	3,069
2025	2,275
2026 and thereafter	3,968
Total lease payments	23,875
Less: imputed lease interest	(4,124)
Total lease liabilities	$ 19,751

Purchase Obligations

The Company has contractual obligations related to component inventory that its contract manufacturers procure on its behalf in accordance with its production forecast as well as other inventory related purchase commitments. As of December 31, 2020, these purchase obligations totaled approximately $162.2 million.

Letter of Credits

As of December 31, 2019, the Company had a standby letter of credit in the aggregate amount of $44.7 million, primarily in connection with one of its customer contracts. The letter of credit served as a performance security for product delivered to the customer in the first quarter of 2020 and expired on April 30, 2020. No amounts were drawn against this letter of credit. As of December 31, 2020, the Company has no letter of credits outstanding.

Litigation

The Company is subject to various legal proceedings relating to claims arising out of its operations that have not been fully resolved. The outcome of litigation is inherently uncertain. If one or more legal matters were resolved against the Company in a reporting period for amounts above management's expectations, the Company's business, results of operations, financial position and cash flows for that reporting period could be materially adversely affected. As of February 12, 2021, the Company is not currently a party to any matters that the management expects will have an adverse material effect on the Company's consolidated financial position, results of operations or cash flows.

Contingencies

On March 26, 2020, the Office of the United States Trade Representative (the "USTR") announced certain exclusion requests related to tariffs on Chinese imported microinverter products that fit the dimensions and weight limits within a Section 301 Tariff exclusion under U.S. note 20(ss)(40) to subchapter III of chapter 99 of the Harmonized Tariff Schedule of the United States (the "Tariff Exclusion"). The Tariff Exclusion applies to covered products under the China Section 301 Tariff Actions ("Section 301 Tariffs") taken by the USTR exported from China to the United States from September 24, 2018 until August 7, 2020. Accordingly, the Company has sought refunds totaling approximately $38.9 million plus approximately $0.6 million accrued interest on tariffs previously paid from September 24, 2018 to March 31, 2020 for certain microinverters that qualify for the Tariff Exclusion. The refund request was subject to review and approval by the U.S. Customs and Border Protection; therefore, the Company assessed the probable loss recovery in the year ended December 31, 2020 is equal to the approved refund requests available to us prior to issuance of the financial statements on February 12, 2021.

As of December 31, 2020, the Company had received $24.8 million of tariff refunds and accrued for the remaining $14.7 million tariff refunds that were approved, however, not yet received on or before December 31, 2020. For the year ended December 31, 2020, the Company recorded $38.9 million as a reduction to cost of revenues in the Company's consolidated statements of operations as the approved refunds relate to paid tariffs previously recorded to cost of revenues, therefore, the Company recorded the corresponding approved tariff refunds as credits to cost of revenues in the current period. For the year ended December 31, 2020, the Company recorded the $0.6 million accrued interest as interest income in the consolidated statement of operations. The tariff refund receivable of $14.7 million is recorded as a reduction of accounts payable to Flex Ltd. and affiliates ("Flex"), the Company's manufacturing partner and the importer of record who will first receive the tariff refunds, on the Company's consolidated balance sheet as of December 31, 2020. The Company is unable to predict the timing of receipt of the $14.7 million approved.

The Tariff Exclusion expired on August 7, 2020 and those microinverter products now are subject to tariffs. The Company continues to pay Section 301 Tariffs on its storage and communication products and other accessories imported from China which are not subject to the Tariff Exclusion.

13. SALE OF COMMON STOCK

In February 2018, the Company entered into a Securities Purchase Agreement with an investor pursuant to which the Company, in a private placement, issued and sold to the investor approximately 9.5 million shares of the Company's common stock at a price per share of $2.10, for gross proceeds of approximately $20.0 million.

14. STOCK-BASED COMPENSATION

Description of Equity Incentive Plans

2006 Plan

Under the Company's 2006 Equity Incentive Plan (the "2006 Plan"), equity awards granted generally vest over a 4-year period from the date of grant with a contractual term of up to 10 years. As of December 31, 2020, there were less than 0.1 million shares of options outstanding under the 2006 Plan. No further stock options or other stock awards may be granted under the 2006 Plan.

2011 Plan

Under the 2011 Equity Incentive Plan (the "2011 Plan"), the Company could initially issue up to 2,643,171 shares of its common stock pursuant to stock options, stock appreciation rights ("SARS"), restricted stock awards ("RSA"), RSUs, PSUs, and other forms of equity compensation, or collectively, stock awards, all of which may be granted to employees, including officers, and to non-employee directors and consultants. Options granted under the 2011 Plan before August 1, 2012 generally expire 10 years after the grant date and options granted thereafter generally expire 7 years after the grant date. Equity awards granted under the 2011 Plan generally vest over a 4-year period from the date of grant based on continued employment. The number of shares of the Company's common stock authorized for issuance under the 2011 Plan automatically increases on each January 1 by 4.5% of the total number of shares of the Company's common stock outstanding on December 31 of the preceding calendar year, or such lesser number of shares of common stock as determined by the board of directors. As of December 31, 2020, 8,940,388 shares remained available for issuance pursuant to future grants under the 2011 Plan. On January 1, 2021, the shares available for issuance under the 2011 Plan automatically increased by 5,803,296 shares.

2011 Employee Stock Purchase Plan

The 2011 Employee Stock Purchase Plan ("ESPP") became effective immediately upon the execution and delivery of the underwriting agreement for the Company's initial public offering on March 29, 2012. The ESPP authorized the issuance of 669,603 shares of the Company's common stock pursuant to purchase rights granted to employees. The number of shares of common stock reserved for issuance will automatically increase, on each January 1, by a lesser of (i) 330,396 shares of the Company's common stock or (ii) 1.0% of the total number of shares of the Company's common stock outstanding on December 31 of the preceding calendar year, as determined by the Company's board of directors. At the Annual Meeting of Stockholders held on May 18, 2017 the Company's stockholders approved a one-time amendment to the Company's ESPP to increase the aggregate number of shares available for purchase by 400,000 shares and to increase the annual automatic minimum increase in shares reserved for issuance from 330,396 to 700,000 shares effective January 1, 2018. As of December 31, 2020, 1,288,887 shares remained available for future issuance under the ESPP. On January 1, 2021, the shares available for issuance under the ESPP automatically increased by 700,000 shares.

The ESPP is implemented by concurrent offering periods and each offering period may contain up to four interim purchase periods. In general, offering periods consist of the 24-month periods commencing on each May 15 and November 15 of a calendar year.

Generally, all full-time employees in Australia, France, India, Mexico, New Zealand, the Netherlands and the United States, including executive officers, are eligible to participate in the ESPP. The ESPP permits eligible employees to purchase the Company's common stock through payroll deductions, which may not exceed 15% of the employee's total compensation subject to certain limits. Stock may be purchased under the plan at a price equal to 85% of the fair market value of the Company's stock on either the date of purchase or the first day of an offering period, whichever is lower. A two-year look-back feature in the Company's ESPP causes an offering period to reset if the fair value of the Company's common stock on a purchase date is less than that on the initial offering date for that offering period. The reset feature, when triggered, will be accounted for as a modification to the original offering, resulting in additional expense to be recognized over the 24-month period of the new offering. During any calendar year, participants may not purchase shares of common stock having a value greater than $25,000, based on the fair market value per share of the common stock at the beginning of an offering period.

Valuation of Equity Awards

Stock Options

The fair value of each option granted was estimated on the date of grant using the Black-Scholes option-pricing model with the following assumptions:

- *Expected term* - The expected term of the option awards represents the period of time between the grant date of the option awards and the date the option awards are either exercised, converted or canceled, including an estimate for those option awards still outstanding. The Company used the simplified method, as permitted by the SEC for companies with a limited history of stock option exercise activity, to determine the expected term for its option grants.
- *Expected volatility* - The expected volatility was calculated based on the Company's historical stock prices, supplemented as necessary with historical volatility of the common stock of several peer companies with characteristics similar to those of the Company.
- *Risk-free interest rate* - The risk-free interest rate was based on the U.S. Treasury yield curve in effect at the time of grant and with a maturity that approximated the Company's expected term.
- *Dividend yield* - The dividend yield was based on the Company's dividend history and the anticipated dividend payout over its expected term.

The following table presents the weighted-average grant date fair value of options granted for the periods presented and the assumptions used to estimate those values using a Black-Scholes option pricing model.

	Years Ended December 31,		
	2020	2019	2018
Weighted average grant date fair value	$ 38.45	$ 9.16	$ 2.83
Expected term (in years)	3.8	3.8	4.0
Expected volatility	86.4%	89.1%	88.5%
Annual risk-free rate of return	0.1%	2.1%	2.6%
Dividend yield	—%	—%	—%

Restricted Stock Units

The fair value of the Company's restricted stock units ("RSU") awards granted is based upon the closing price of the Company's stock price on the date of grant.

Performance Stock Units

The fair value of the Company's non-market performance stock units ("PSU") awards granted was based upon the closing price of the Company's stock price on the date of grant. The fair value of awards of the Company's PSU awards containing market conditions was determined using a Monte Carlo simulation model based upon the terms of the conditions, the expected volatility of the underlying security, and other relevant factors.

Stock-based Compensation Expense

Stock-based compensation expense for all stock-based awards expected to vest is measured at fair value on the date of grant and recognized ratably over the requisite service period. The following table summarizes the components of total stock-based compensation expense included in the consolidated statements of operations for the periods presented.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Cost of revenues	$ 3,759	$ 1,650	$ 1,071
Research and development	12,701	4,897	2,940
Sales and marketing	11,548	5,678	3,074
General and administrative	14,495	7,216	4,347
Restructuring	—	735	—
Total	$ 42,503	$ 20,176	$ 11,432
Income tax benefit included in the provision for incomes taxes	$ 61,389	$ 8,185	$ —

The following table summarizes the various types of stock-based compensation expense for the periods presented.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Stock options, RSUs, and PSUs	$ 39,841	$ 19,216	$ 10,691
Employee stock purchase plan	2,662	960	741
Total	$ 42,503	$ 20,176	$ 11,432

As of December 31, 2020, there was approximately $89.7 million of total unrecognized stock-based compensation expense related to unvested equity awards, which are expected to be recognized over a weighted-average period of 2.9 years.

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Equity Awards Activity

Stock Options

The following is a summary of stock option activity.

	Number of Shares Outstanding	Weighted-Average Exercise Price per Share	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value [1]
	(In thousands)		*(Years)*	*(In thousands)*
Outstanding at December 31, 2017	8,426	$ 1.77		
Granted	213	4.43		
Exercised	(1,346)	1.75		$ 5,096
Canceled	(521)	2.94		
Outstanding at December 31, 2018	6,772	$ 1.76		
Granted	43	14.58		
Exercised	(2,616)	1.22		$ 31,093
Canceled	(102)	4.07		
Outstanding at December 31, 2019	4,097	$ 2.18		
Granted	11	64.17		
Exercised	(1,494)	2.74		$ 114,089
Canceled	(82)	6.94		
Outstanding at December 31, 2020	2,532	$ 1.96	3.7	$ 439,268
Vested and expected to vest at December 31, 2020	2,532	$ 1.96	3.7	$ 439,268
Exercisable at December 31, 2020	2,089	$ 1.95	3.7	$ 362,526

(1) The intrinsic value of options exercised is based upon the value of the Company's stock at exercise. The intrinsic value of options outstanding, vested and expected to vest, and exercisable as of December 31, 2020 is based on the closing price of the last trading day during the period ended December 31, 2020. The Company's stock fair value used in this computation was $175.47 per share.

The following table summarizes information about stock options outstanding at December 31, 2020.

	Options Outstanding			Options Exercisable	
Range of Exercise Prices	Number of Shares	Weighted-Average Remaining Life	Weighted-Average Exercise Price	Number of Shares	Weighted-Average Exercise Price
	(In thousands)	*(Years)*		*(In thousands)*	
$0.70 — $1.11	555	4.2	$ 0.85	448	$ 0.83
$1.29 — $1.29	1,000	3.7	1.29	813	1.29
$1.31 — $1.31	670	3.3	1.31	587	1.31
$1.37 — $14.58	296	3.6	5.56	235	6.37
$64.17 — $64.17	11	6.3	64.17	6	64.17
Total	2,532	3.7	$ 1.96	2,089	$ 1.95

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Restricted Stock Units

The following is a summary of RSU activity.

	Number of Shares Outstanding	Weighted-Average Fair Value per Share at Grant Date	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value [1]
	(In thousands)		*(Years)*	*(In thousands)*
Outstanding at December 31, 2017	3,505	$ 2.03		
Granted	3,152	4.45		
Vested	(1,399)	2.75		$ 6,657
Canceled	(906)	2.17		
Outstanding at December 31, 2018	4,352	$ 3.52		
Granted	2,112	11.50		
Vested	(1,707)	3.87		$ 27,156
Canceled	(494)	4.81		
Outstanding at December 31, 2019	4,263	$ 7.19		
Granted	1,550	55.66		
Vested	(2,085)	7.26		$ 125,578
Canceled	(140)	19.47		
Outstanding at December 31, 2020	3,588	$ 27.61	1.08	$ 629,633
Expected to vest at December 31, 2020	3,588	$ 27.61	1.08	$ 629,633

(1) The intrinsic value of RSUs vested is based upon the value of the Company's stock when vested. The intrinsic value of RSUs outstanding and expected to vest as of December 31, 2020 is based on the closing price of the last trading day during the period ended December 31, 2020. The Company's stock fair value used in this computation was $175.47 per share.

Performance Stock Units

The following is a summary of PSU activity.

	Number of Shares Outstanding	Weighted-Average Fair Value per Share at Grant Date	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value [1]
	(In thousands)		*(Years)*	*(In thousands)*
Outstanding at December 31, 2017	—			
Granted	1,477	$ 4.65		
Vested	—			
Canceled	(147)			
Outstanding at December 31, 2018	1,330	$ 4.66		
Granted	1,052	9.48		
Vested	(1,063)	4.62		10,818
Canceled	(364)	5.16		
Outstanding at December 31, 2019	955	$ 9.83		
Granted	989	31.12		
Vested	(1,450)	10.20		$ 52,144
Canceled	—	—		
Outstanding at December 31, 2020	494	$ 51.10	0.2	$ 86,668

(1) The intrinsic value of PSUs vested is based upon the value of the Company's stock when vested. The intrinsic value of PSUs outstanding and expected to vest as of December 31, 2020 is based on the closing price of the last trading day during the period ended December 31, 2020. The Company's stock fair value used in this computation was $175.47 per share.

Employee Stock Purchase Plan

A summary of ESPP activity for the years presented is as follows: (in thousands, except per share data):

	Years Ended December 31,		
	2020	2019	2018
Proceeds from common stock issued under ESPP	$ 4,304	$ 1,692	$ 397
Shares of common stock issued	347	315	439
Weighted-average price per share	$ 12.41	$ 5.37	$ 0.90

15. INCOME TAXES

The domestic and foreign components of income (loss) before income taxes consisted of the following:

	Years Ended December 31,		
	2020	2019	2018
		(In thousands)	
United States	$ 112,727	$ 85,520	$ (14,322)
Foreign	6,683	4,594	4,093
Income (loss) before income taxes	$ 119,410	$ 90,114	$ (10,229)

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The income taxes (benefit) provision for the years presented is as follows:

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Current:			
Federal	$ —	$ —	$ —
State	636	327	42
Foreign	1,896	1,589	1,233
	2,532	1,916	1,275
Deferred:			
Federal	(13,445)	(56,959)	(35)
State	(3,672)	(17,458)	(21)
Foreign	—	1,467	179
	(17,117)	(72,950)	123
Income taxes (benefit) provision	$ (14,585)	$ (71,034)	$ 1,398

A reconciliation of the income tax (benefit) provision and the amount computed by applying the statutory federal income tax rate of 21% to income (loss) before income taxes for the years presented is as follows:

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Income tax (benefit) provision at statutory federal rate	$ 25,076	$ 18,929	$ (2,148)
State taxes, net of federal benefit	(3,098)	(17,197)	17
Change in valuation allowance	—	(71,300)	8,198
Foreign tax rate and tax law differential	611	1,206	313
Tax credits	(5,835)	(1,803)	(378)
Stock-based compensation	(50,818)	(8,072)	(953)
Other permanent items	(253)	31	235
Other nondeductible/nontaxable items	1,525	2,765	(5,112)
Uncertain tax positions	1,530	504	107
GILTI	—	1,086	917
Section 162(m)	11,469	2,817	202
Warrant mark-to-mark adjustment	5,208	—	—
Income tax (benefit) provision	$ (14,585)	$ (71,034)	$ 1,398

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A summary of significant components of the Company's deferred tax assets and liabilities as of December 31, 2020 and 2019 is as follows (in thousands):

	December 31,	
	2020	2019
Deferred tax assets:		
Allowances and reserves	$ 13,146	$ 10,726
Net operating loss and tax credit carryforwards	53,116	54,369
Stock-based compensation	4,598	3,753
Deferred revenue	20,765	16,736
Fixed assets and intangibles	8,706	2,720
Sec. 163(j) interest carryforward	4,401	—
Other	7,007	1,109
Subtotal	111,739	89,413
Total deferred tax assets	111,739	89,413
Deferred tax liabilities:		
Goodwill	(1,719)	(1,368)
Unremitted foreign earnings	(7)	(5)
Deferred cost of goods sold	(17,545)	(14,374)
Total deferred tax liabilities	(19,271)	(15,747)
Net deferred tax asset	$ 92,468	$ 73,666

The Company's accounting for deferred taxes involves the evaluation of a number of factors concerning the realizability of the Company's deferred tax assets. Assessing the realizability of deferred tax assets is dependent upon several factors, including the likelihood and amount, if any, of future taxable income in relevant jurisdictions during the periods in which those temporary differences become deductible. The Company's management forecasts taxable income by considering all available positive and negative evidence including its history of operating income or losses and its financial plans and estimates which are used to manage the business. These assumptions require significant judgment about future taxable income. The amount of deferred tax assets considered realizable is subject to adjustment in future periods if estimates of future taxable income are reduced.

The Company has net operating loss carryforwards for federal and California income tax purposes of approximately $113.7 million and $87.3 million, respectively, as of December 31, 2020. The federal and state net operating loss carryforwards, if not utilized, will expire beginning in 2036 and 2029, respectively.

The Company has approximately $18.2 million of federal research credit and $12.6 million of state research credit carryforwards. The federal credits begin to expire in 2026 and the state credits can be carried forward indefinitely.

Utilization of some of the federal and state net operating loss and credit carryforwards are subject to annual limitations due to the "change in ownership" provisions of the Internal Revenue Code of 1986 and similar state provisions. The Company has completed a Section 382 analysis through December 31, 2020, which indicated no such change has occurred through December 31, 2020.

The accounting for uncertain tax positions prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The Company is required to recognize in the financial statements the impact of a tax position, if that position is more-likely-than-not of being sustained on audit, based on the technical merits of the position. The Company recorded a net charge for unrecognized tax benefits in 2020 of $1.8 million.

The Company does not have any tax positions for which it is reasonably possible the total amount of gross unrecognized tax benefits will increase or decrease over the next year. The unrecognized tax benefits may increase or change during the next year for items that arise in the ordinary course of business.

A tabular reconciliation of the total amounts of unrecognized tax benefits for the years presented is as follows (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Unrecognized tax benefits—at beginning of year	$ 6,589	$ 6,325	$ 6,106
Decreases in balances related to tax positions taken in prior years	—	(370)	—
Increases in balances related to tax positions taken in current year	2,006	771	329
Lapses in statutes of limitations	(174)	(137)	(110)
Unrecognized tax benefits—at end of year	$ 8,421	$ 6,589	$ 6,325

The Company includes interest and penalties related to unrecognized tax benefits within the benefit from (provision for) income taxes. As of years ended December 31, 2020, 2019 and 2018, the total amount of gross interest and penalties accrued in each year was immaterial. Both the unrecognized tax benefits and the associated interest and penalties that are not expected to result in payment or receipt of cash within one year are classified as other non-current liabilities in the consolidated balance sheets. In connection with tax matters, the Company's interest and penalty expense recognized in 2020, 2019 and 2018 in the consolidated statements of operations was immaterial.

The Company's tax returns continue to remain effectively subject to examination by U.S. federal authorities for the years 2006 through 2020 and by California state authorities for the years 2006 through 2020 due to use and carryovers of net operating losses and credits.

16. CONCENTRATION OF CREDIT RISK AND MAJOR CUSTOMERS

The Company is potentially subject to financial instrument concentration of credit risk through its cash and cash equivalents and accounts receivable. The Company places its cash and cash equivalents with high quality institutions and performs periodic evaluations of their relative credit standing.

Accounts receivable can be potentially exposed to a concentration of credit risk with its major customers. As of December 31, 2020, amounts due from one customer represented approximately 36% of the total accounts receivable balance. As of December 31, 2019, amounts due from three customers represented 34%, 14% and 11% of the total accounts receivable balance.

In 2020, one customer accounted for approximately 29% of total net revenues. In 2019, two customers accounted for approximately 21% and 12% of total net revenues. In 2018, one customer accounted for approximately 19% of total net revenues.

17. NET INCOME (LOSS) PER SHARE

Basic net income (loss) per share is computed by dividing net income (loss) by the weighted average number of shares of common stock outstanding during the period. Diluted net income (loss) per share is computed in a similar manner, but it also includes the effect of potential common shares outstanding during the period, when dilutive. Potential common shares include Stock Options, RSUs, PSUs, shares to be purchased under the Company's ESPP, the Notes due 2023, the Notes due 2024, Warrants issued in conjunction with the Notes due 2024, and from May 20, 2020 to the end of the reporting period, the Notes due 2025 and Warrants issued in conjunction with the Notes due 2025. See Note 11. "Debt" for additional information.

The dilutive effect of potentially dilutive common shares is reflected in diluted earnings per share by application of the treasury stock method for stock options, RSUs, PSUs, Notes due 2024, warrants issued in conjunction with the Notes due 2024, Notes due 2025, warrants issued in conjunction with the Notes due 2025 and shares to be purchased under the ESPP, and by application of the if-converted method for the Notes due 2023. To the extent these potential common shares are antidilutive, they are excluded from the calculation of diluted net income (loss) per share.

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table presents the computation of basic and diluted net income (loss) per share for the periods presented.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands, except per share data)		
Numerator:			
Net income (loss)	$ 133,995	$ 161,148	$ (11,627)
Notes due 2023 interest and financing costs, net	177	1,088	—
Adjusted net income (loss)	$ 134,172	$ 162,236	$ (11,627)
Denominator:			
Shares used in basic per share amounts:			
Weighted average common shares outstanding	125,561	116,713	99,619
Shares used in diluted per share amounts:			
Weighted average common shares outstanding	125,561	116,713	99,619
Effect of dilutive securities:			
Employee stock-based awards	6,997	8,964	—
Warrants (issued in conjunction with Notes due 2024)	4,011	—	—
Notes due 2024	4,449	451	—
Notes due 2023	900	5,516	—
Weighted average common shares outstanding for diluted calculation	141,918	131,644	99,619
Basic and diluted net income (loss) per share			
Net income (loss) per share, basic	$ 1.07	$ 1.38	$ (0.12)
Net income (loss) per share, diluted	$ 0.95	$ 1.23	$ (0.12)

The following outstanding shares of common stock equivalents were excluded from the calculation of the diluted net income (loss) per share attributable to common stockholders because their effect would have been antidilutive.

	Years Ended December 31,		
	2020	2019	2018
	(In thousands)		
Employee stock options	7	27	7,710
RSUs and PSUs	36	158	5,273
Warrants (issued in conjunction with Notes due 2024)	—	300	—
Warrants (issued in conjunction with Notes due 2025)	1,254	—	—
Notes due 2025	197	—	
Notes due 2023	—	—	11,701
Total	1,494	485	24,684

Diluted earnings per share for the year ended December 31, 2020 includes the dilutive effect of stock options, RSUs, PSUs, shares to be purchased under the ESPP, the Notes due 2023, the Notes due 2024, and warrants issued in conjunction with the Notes due 2024. Certain common stock issuable under stock options, RSUs, PSUs, Notes due 2025 and warrants issued in conjunction with the Notes due 2025 have been omitted from the diluted net income per share calculation because including such shares would have been antidilutive.

Diluted earnings per share for the year ended December 31, 2019 includes the dilutive effect of stock options, RSUs, PSUs, shares to be purchased under the ESPP, the Notes due 2023 and Notes due 2024. Certain common stock issuable under stock options, RSUs, PSUs and warrants issued in conjunction with the Notes due 2024 have been omitted from the diluted net income per share calculation because including such shares would have been antidilutive.

Since the Company has the intent and ability to settle the aggregate principal amount of the Notes due 2024 and Notes due 2025 in cash and any excess in shares of the Company's common stock, the Company uses the treasury stock method for calculating any potential dilutive effect of the conversion spread on diluted net income per share, if applicable. In order to compute the dilutive effect, the number of shares included in the denominator of diluted net income per share is determined by dividing the conversion spread value of the "in-the-money" Notes due 2024 and Notes due 2025 by the Company's average share price during the period and including the resulting share amount in the diluted net income per share denominator. The conversion spread will have a dilutive impact on net income per share of common stock when the average market price of the Company's common stock for a given period exceeds the conversion price of $20.50 per share and $81.54 per share for the Notes due 2024 and Notes due 2025, respectively.

18. SEGMENT AND GEOGRAPHIC INFORMATION

The Company's chief operating decision maker is the Chief Executive Officer. The Chief Executive Officer reviews financial information presented on a consolidated basis. The Company has one business activity, which entails the design, development, manufacture and sale of solutions for the solar photovoltaic industry. There are no segment managers who are held accountable for operations, operating results or plans for levels or components below the consolidated unit level. Accordingly, management has determined that the Company has a single operating and reportable segment.

See Note 3. "Revenue Recognition for the table presenting net revenues (based on the destination of shipments). The following table presents long-lived assets by geographic region as of and for the periods presented (in thousands):

Long-Lived Assets

	December 31,	
	2020	2019
	(In thousands)	
United States	$ 19,870	$ 16,754
China	9,948	4,635
Mexico	4,808	3,510
India	4,371	1,315
New Zealand	3,837	2,638
Other	151	84
Total	$ 42,985	$ 28,936

19. RELATED PARTY

In 2018, a member of the Company's board of directors and one of its principal stockholders, Thurman John Rodgers, purchased $5.0 million aggregate principal amount of the Notes due 2023 in a concurrent private placement. As of both December 31, 2020 and December 31, 2019, $5.0 million aggregate principal amount of the Notes due 2023 were outstanding. See Note 11. "Debt" for additional information related to this purchase.

The Company sells products to SunPower under the August 2018 MSA. As of December 31, 2019, SunPower via its wholly owned subsidiary, held 6.5 million shares of the Company's common stock. Revenue recognized under the MSA for the year ended December 31, 2019 was $70.9 million, net of amortization of the customer relationship intangible asset (see Note 6. "Goodwill and Intangible Assets"). As of December 31, 2019, the Company had accounts receivable of $15.9 million from SunPower. As of December 31, 2019, the Company received $5.2 million as a safe harbor prepayment from SunPower in the fourth quarter of 2019 for product delivered in the first quarter of 2020.

As of December 31, 2020, SunPower via its wholly owned subsidiary held 3.5 million shares of the Company's common stock which is less than 5% of the Company's common stock outstanding and is no longer a considered a related party.

20. ACQUISITION

On August 9, 2018, the Company completed its acquisition of SunPower's microinverter business pursuant to an APA by which the Company acquired certain assets and liabilities of SunPower relating to the research and development and manufacturing of microinverters. The acquisition was accounted for as a business combination and, accordingly, the total purchase price was allocated to the preliminary net tangible and intangible assets and liabilities based on their preliminary fair values on the acquisition date.

In conjunction with the APA, the Company entered into an MSA with SunPower. Pursuant to the terms of the MSA, the Company becomes the exclusive supplier of MLPEs for SunPower's residential business in the U.S. for a period of five years. The resulting customer relationship intangible is accounted for as a distinct transaction from the acquired business.

The acquisition date fair value of the consideration transferred was approximately $57.3 million, which consisted of the following (in thousands):

Cash consideration	$	25,000
Common stock issued		32,319
Total	$	57,319

The fair value of the Company's 7.5 million shares of common stock issued, valued at $32.3 million, was determined based on the closing market price of the Company's common stock on the acquisition date, less a discount of 14% to 30% (depending on the year) for lack of marketability as the shares issued are subject to a restriction that limits their trade or transfer with a lock-up period of six months and restrictions on the number of shares that can be transferred by SunPower in each six-month period following the lock-up period.

The following table summarizes the preliminary estimated fair values of the assets acquired and liabilities assumed at the acquisition date (in thousands):

Intangible assets	$	36,200
Goodwill		21,119
Net assets acquired	$	57,319

The excess of the consideration paid over the fair values assigned to the assets acquired and liabilities assumed represents the goodwill resulting from the acquisition. The $21.1 million of goodwill recognized is attributable primarily to the benefits the Company expects to derive from enhanced scale and efficiency to better serve its markets. Goodwill is expected to be deductible over the next 15 years for income tax purposes.

The fair values assigned to tangible and identifiable intangible assets acquired are based on management's estimates and assumptions. The fair values of assets acquired are preliminary and may be subject to change within the measurement period as the fair value assessments are finalized.

ENPHASE ENERGY, INC.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following table shows the fair value of the separately identifiable intangible assets at the time of acquisition and the period over which each intangible asset will be amortized:

	Preliminary Fair Value	Useful Life
	(In thousands)	*(Years)*
Developed technology	$ 13,100	6
Customer relationship	23,100	9
Total identifiable intangible assets	$ 36,200	

The developed technology acquired is embedded in the microinverters that SunPower sells to its customers. The Company already has developed microinverter technology and the Company will supply its microinverters to SunPower through the term of the MSA. The Company does not intend to actively use the developed technology acquired from SunPower but does plan to hold the developed technology to prevent others from using it. Therefore, the Company will account for the developed technology as a defensive intangible asset. The Company expects to realize the benefits of the developed technology over the period of time in which the Company will supply microinverters to SunPower. The Company does expect changes in microinverter technology during the life of the customer relationship with SunPower and expects to benefit from preventing competitors' access to the technology over a period of six years, therefore, the Company will amortize the value of the developed technology intangible asset over a period of six years.

The MSA was negotiated together with the APA and provides the Company with the exclusive right to supply SunPower with MLPEs for a period of five years, with options for renewals. The exclusivity arrangement extends throughout the term of the MSA, which comprises all of the expected cash flows from the customer relationship intangible asset, and was a condition to, and was an essential part of the acquisition of the microinverter business by the Company. As the fair value ascribed to the customer relationship intangible asset represents payments to a customer, the Company will amortize the value of the customer relationship intangible asset as a reduction to revenue using a pattern of economic benefit method over a useful life of nine years.

The table below shows estimated fair values of the assets acquired funded by cash and issuance of common stock at the acquisition date:

	Cash Purchase Price	Issuance of Common Stock	Total Consideration	% of Total Consideration
		(In thousands)		
Developed technology and goodwill	$ 15,000	$ 19,219	$ 34,219	60 %
Customer relationship	10,000	13,100	23,100	40 %
Total consideration	$ 25,000	$ 32,319	$ 57,319	100 %

The Company allocated $10.0 million of the $25.0 million paid of the cash purchase price to cash flows from operating activities and the remaining $15.0 million to cash used in investing activities in the consolidated statements of cash flows for the year ended December 31, 2018. The allocation was based on the valuation of the customer relationship relative to the overall consideration. In addition, the Company disclosed $19.2 million from issuance of common stock and $15.0 million of cash purchase price paid for the developed technology and goodwill as investing activities in the consolidated statements of cash flows for the year ended December 31, 2018.

During 2018, total acquisition-related costs were approximately $0.8 million, which were included in general and administrative expenses.

The Company determined it is impractical to include such pro forma information given the difficulty in obtaining the historical financial information for the SunPower microinverter business as the business was part of SunPower and did not have discrete financial information prior to the acquisition. Inclusion of such information would require the Company to make estimates and assumptions regarding the acquired business historical financial results that the Company believes may ultimately prove inaccurate.

21. SUBSEQUENT EVENTS

In January 2021, the Company invested $25.0 million in cash in a privately-held company. The investment does not require consolidation into the Company's financial statements because the privately-held company is not a variable interest entity and the Company does not hold a majority voting interest.

On January 25, 2021, the Company completed the acquisition of 100% of the voting interest of Sofdesk Inc. ("Sofdesk"), a privately-held company. Sofdesk provides design software for residential solar installers and roofing companies. As part of the consideration, the Company paid approximately $32.0 million in cash on January 25, 2021. The Company is currently in the process of completing the preliminary purchase price allocation, which will be included in the Company's Quarterly Report on Form 10-Q for the quarter ended March 31, 2021.

On February 8, 2021, the Company announced that it has agreed to acquire the solar design services business of DIN Engineering Services LLP ("DIN"). DIN provides proposal drawings and permit plan sets for residential solar installers in North America. The acquisition is subject to customary closing conditions and regulatory approvals.

SELECTED UNAUDITED QUARTERLY FINANCIAL INFORMATION

The following tables show a summary of the Company's quarterly financial information for each of the four quarters of 2020 and 2019 (in thousands, except per share data):

	Three Months Ended			
	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020
Net revenues	$ 205,545	$ 125,538	$ 178,503	$ 264,839
Cost of revenues	124,870	77,151	83,522	142,901
Gross profit	80,675	48,387	94,981	121,938
Operating expenses:				
Research and development	11,876	13,192	15,052	15,801
Sales and marketing	11,772	12,371	14,645	14,139
General and administrative	12,315	11,970	13,525	12,884
Total operating expenses	35,963	37,533	43,222	42,824
Income from operations	44,712	10,854	51,759	79,114
Other income (expense), net				
Interest Income	1,091	282	110	673
Interest expense	(3,155)	(5,952)	(5,993)	(5,901)
Other income (expense)	(924)	653	(1,031)	(2,534)
Change in fair value of derivatives	15,344	(59,692)	—	—
Total other income (expense), net	12,356	(64,709)	(6,914)	(7,762)
Income (loss) before income taxes	57,068	(53,855)	44,845	71,352
Income tax benefit (provision)	11,868	6,561	(5,483)	1,639
Net income (loss)	$ 68,936	$ (47,294)	$ 39,362	$ 72,991
Net income (loss) per share, basic	$ 0.56	$ (0.38)	$ 0.31	$ 0.57
Net income (loss) per share, diluted	$ 0.50	$ (0.38)	$ 0.28	$ 0.50

	Three Months Ended			
	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019
Net revenues	$ 100,150	$ 134,094	$ 180,057	$ 210,032
Cost of revenues	66,811	88,775	115,351	132,151
Gross profit	33,339	45,319	64,706	77,881
Operating expenses:				
Research and development	8,524	9,604	11,085	11,168
Sales and marketing	7,433	9,054	9,551	10,690
General and administrative	9,880	8,583	9,895	10,450
Restructuring charges	368	631	469	1,131
Total operating expenses	26,205	27,872	31,000	33,439
Income from operations	7,134	17,447	33,706	44,442
Other expense, net				
Interest income	211	593	894	815
Interest expense	(3,751)	(1,351)	(2,286)	(2,303)
Other income (expense), net	(481)	(5,480)	(943)	1,467
Total other expense, net	(4,021)	(6,238)	(2,335)	(21)
Income before income taxes	3,113	11,209	31,371	44,421
Income tax benefit (provision)	(348)	(591)	(272)	72,245
Net income	$ 2,765	$ 10,618	$ 31,099	$ 116,666
Net income per share, basic	$ 0.03	$ 0.09	$ 0.25	$ 0.95
Net income per diluted share	$ 0.02	$ 0.08	$ 0.23	$ 0.88

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We carried out an evaluation required by the Exchange Act, under the supervision and with the participation of our principal executive officer and principal financial officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rule 13a-15(e) of the Exchange Act, as of the end of the period covered by this report. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures were effective to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms and to provide reasonable assurance that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosures.

Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting in providing reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, as defined in Rule 13a-15(f) of the Exchange Act. Management has assessed the effectiveness of our internal control over financial reporting as of December 2020 based on criteria set forth in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013). As a result of this assessment, management concluded that, as of December 2020, our internal control over financial reporting was effective. The Company's independent registered public accounting firm, Deloitte & Touche LLP, has issued an audit report on our internal control over financial reporting, which appears in Part II, Item 8 of this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the most recent quarter ended December 31, 2020 that materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. We have not experienced any material impact to our internal controls over financial reporting despite the fact that most of our employees are continuing to work remotely due to the COVID-19 pandemic. We continue to monitor and assess the impact of the ongoing COVID-19 pandemic on our internal controls to minimize the impact on their design and operating effectiveness.

Limitations on Controls

Our disclosure controls and procedures and internal control over financial reporting are designed to provide reasonable assurance of achieving their objectives as specified above. Management does not expect, however, that our disclosure controls and procedures or our internal control over financial reporting will prevent or detect all errors 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 the Company have been detected.

Item 9B. Other Information

None.

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required regarding our directors is incorporated by reference from the information contained in the section entitled “Election of Directors” in our definitive Proxy Statement for the 2021 Annual Meeting of Stockholders (our “Proxy Statement”), a copy of which will be filed with the Securities and Exchange Commission on or before April 30, 2021.

The information required regarding our executive officers is incorporated by reference from the information contained in the section entitled “Management” in our Proxy Statement.

The information required regarding Section 16(a) beneficial ownership reporting compliance is incorporated by reference from the information contained in the section entitled “Delinquent Section 16(a) Reports” in our Proxy Statement.

The information required with respect to procedures by which security holders may recommend nominees to our board of directors, and the composition of our Audit Committee, and whether we have an “audit committee financial expert,” is incorporated by reference from the information contained in the section entitled “Information Regarding the Board of Directors and Corporate Governance” in our Proxy Statement.

Code of Conduct

We have a written code of conduct that applies to all our executive officers, directors and employees. Our Code of Conduct is available on our website at *http://investor.enphase.com/corporate-governance*. A copy of our Code of Conduct may also be obtained free of charge by writing to our Secretary, Enphase Energy, Inc., 47281 Bayside Parkway, Fremont, CA 94538. If we make any substantive amendments to our Code of Conduct or grant any waiver from a provision of the Code of Conduct to any executive officer or director, we intend to promptly disclose the nature of the amendment or waiver on our website.

Item 11. Executive Compensation

The information required regarding the compensation of our directors and executive officers is incorporated by reference from the information contained in the sections entitled “Executive Compensation,” “Director Compensation” and “Compensation Committee Interlocks and Insider Participation” in our Proxy Statement.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required regarding security ownership of our 5% or greater stockholders and of our directors and executive officers is incorporated by reference from the information contained in the section entitled “Security Ownership of Certain Beneficial Owners and Management” in our Proxy Statement.

Equity Compensation Plan Information

The information required regarding securities authorized for issuance under our equity compensation plans is incorporated by reference from the information contained in the section entitled “Equity Compensation Plan Information” in our Proxy Statement.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required regarding related transactions is incorporated herein by reference from the information contained in the section entitled “Transactions With Related Persons” and, with respect to director independence, the section entitled “Election of Directors” in our Proxy Statement.

Item 14. Principal Accounting Fees and Services

The information required is incorporated by reference from the information contained in the sections entitled “Principal Accountant Fees and Services” and “Pre-Approval Policies and Procedures” in the Proposal entitled “Ratification of Selection of Independent Registered Public Accounting Firm” in our Proxy Statement.

PART IV

Item 15. Exhibits, Financial Statement Schedules

Consolidated Financial Statements

The information concerning our consolidated financial statements, and Report of Independent Registered Public Accounting Firm required by this Item is incorporated by reference herein to the section of this Annual Report on Form 10-K in Part II, Item 8, *Consolidated Financial Statements and Supplementary Data*.

No schedules are provided because they are not applicable, not required under the instructions, or the requested information is shown in the financial statements or related notes thereto.

Exhibits

			Incorporation by Reference			
Exhibit Number	Exhibit Description	Form	SEC File No.	Exhibit	Filing Date	Filed Herewith
2.1	Asset Purchase Agreement Among SunPower Corporation and Enphase Energy, Inc. dated June 12, 2018.	8-K	001-35480	2.1	6/12/2018	
3.1	Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.	8-K	001-35480	3.1	4/6/2012	
3.2	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.	10-Q	001-35480	3.1	8/9/2017	
3.3	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.	10-Q	001-35480	2.1	8/6/2018	
3.4	Certificate of Amendment of the Amended and Restated Certificate of Incorporation of Enphase Energy, Inc.	8-K	001-35480	3.1	5/27/2020	
3.5	Amended and Restated Bylaws of Enphase Energy, Inc.	S-1/A	333-174925	3.5	3/12/2012	
4.1	Specimen Common Stock Certificate of Enphase Energy, Inc.	S-1/A	333-174925	4.1	3/12/2012	
4.2	Indenture, dated August 17, 2018, between Enphase Energy, Inc. and U.S. Bank National Association.	8-K	001-35480	4.1	8/17/2018	
4.3	Form of 4.00% Convertible Senior Note due 2023 (included in Exhibit 4.2).	8-K	001-35480	4.1	8/17/2018	
4.4	Indenture, dated June 5, 2019, between Enphase Energy, Inc. and U.S. Bank National Association.	8-K	001-35480	4.1	6/5/2019	
4.5	Form of 1.00% Convertible Senior Note due 2024 (included in Exhibit 4.4).	8-K	001-35480	4.1	6/5/2019	
4.6	Indenture, dated March 9, 2020, between Enphase Energy, Inc. and U.S. Bank National Association.	8-K	001-35480	4.1	3/9/2020	
4.7	Form of 0.25% Convertible Senior Note due 2025 (included in Exhibit 4.1).	8-K	001-35480	4.2	3/9/2020	
4.8	Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934, as amended.					X
10.1+	Form of Indemnification Agreement by and between Enphase Energy, Inc. and each of its directors and officers.	S-1/A	333-174925	10.1	8/24/2011	
10.2+	2006 Equity Incentive Plan, as amended, and related documents.	S-8	333-181382	99.1	5/14/2012	
10.3+	2011 Equity Incentive Plan, as amended, and forms of agreement thereunder.	DEF 14A	001-35480	Appendix A	3/18/2016	
10.4+	2011 Employee Stock Purchase Plan, as amended.	DEF 14A	001-35480	Appendix A	3/31/2017	

Exhibit Number	Exhibit Description	Form	Incorporation by Reference			Filed Herewith
			SEC File No.	Exhibit	Filing Date	
10.5	Flextronics Logistics Services Agreement by and between Enphase Energy, Inc. and Flextronics America, LLC, dated May 1, 2009.	S-1	333-174925	10.17	6/15/2011	
10.6	Amendment #1 to the Flextronics Logistics Services Agreement, by and between Enphase Energy, Inc. and Flextronics America, LLC, dated July 28, 2016.	10-Q	001-35480	10.4	11/2/2016	
10.7	Flextronics Manufacturing Services Agreement by and between Enphase Energy, Inc. and Flextronics Industrial, Ltd., dated March 1, 2009, as amended.	S-1	333-174925	10.18	6/15/2011	
10.8	Master Development and Production Agreement by and between Enphase Energy, Inc. and Fujitsu Microelectronics America, Inc., dated August 19, 2009.	10-Q	001-35480	10.1	5/6/2015	
10.9	License and Technology Transfer Agreement by and between Enphase Energy, Inc. and Ariane Controls, Inc., dated December 21, 2007.	S-1	333-174925	10.2	6/15/2011	
10.10	Software License Agreement by and between PVI Solutions, Inc. (subsequently known as Enphase Energy, Inc.) and DCD, Digital Core Design, dated May 8, 2007, as amended.	S-1	333-174925	10.21	6/15/2011	
10.11+	Non-employee Director Compensation Policy.					X
10.12+	Offer Letter by and between Enphase Energy, Inc. and David Ranhoff, dated December 1, 2017.	8-K	001-35480	10.1	12/5/2017	
10.13+	Severance and Change in Control Benefit Plan.	10-Q	001-35480	10.5	5/8/2013	
10.14	Securities Purchase Agreement, by and among Enphase Energy, Inc. and the purchasers identified on Exhibit A thereto, dated January 9, 2017.	8-K	001-35480	10.1	1/10/2017	
10.15+	Offer Letter by and between Enphase Energy, Inc. and Eric Branderiz, dated December 1, 2018.	10-Q	001-35480	10.1	8/6/2018	
10.16	Securities Purchase Agreement, dated August 14, 2018, by and between Enphase Energy, Inc. and the Rodgers Massey Revocable Trust dtd 4/4/11.	8-K	001-35480	10.2	8/17/2018	
10.17+	Performance Bonus Program Summary.	8-K	001-35480	10.1	2/6/2019	
10.18	Stockholders Agreement, dated as of August 9, 2018, by and between Enphase Energy, Inc. and SunPower Corporation.	SC 13D	005-86790	SC 13D	8/20/2018	
10.19†	Master Supply Agreement, dated August 9, 2018, between Enphase Energy, Inc. and SunPower Corporation.	8-K/A	001-35480	99.1	10/23/2018	
10.20†	Amendment No. 1 to Master Supply Agreement, dated December 10, 2018, by and between Enphase Energy, Inc. and SunPower Corporation.	10-K	001-34166	10.74	2/14/2019	
10.21#	Amendment No. 2 to Master Supply Agreement, dated June 12, 2018, by and between Enphase Energy, Inc. and SunPower Corporation.					X
10.22#	Amendment No. 3 to Master Supply Agreement, dated June 12, 2018, by and between Enphase Energy, Inc. and SunPower Corporation.					X
10.23	Consent and Waiver to Stockholders Agreement					X
10.24#	Salcomp Manufacturing Services Agreement by and between Enphase Energy, Inc. and Salcomp Manufacturing India Private Ltd., dated October 1, 2019.					X
10.25	Bayside Parkway Lease by and between Enphase Energy, Inc. and Dollinger Bayside Associates, dated April 12, 2018.	10-K	001-35480	10.45	3/15/2019	
10.26	Bayside Parkway Lease by and between Enphase Energy, Inc. and Dollinger Bayside Associates, amendment dated March 17, 2020.					X

Exhibit Number	Exhibit Description	Form	Incorporation by Reference			Filed Herewith
			SEC File No.	Exhibit	Filing Date	
10.27	Bayside Parkway Lease by and between Enphase Energy, Inc. and Dollinger Bayside Associates, amendment dated May 9, 2020.					X
10.28	Form of Convertible Note Hedge Transaction Confirmation (2019).	8-K	001-35480	10.2	6/5/2019	
10.29	Form of Warrant Confirmation (2019).	8-K	001-35480	10.3	6/5/2019	
10.30	Form of Convertible Note Hedge Transaction Confirmation (2020).	8-K	001-35480	10.2	3/9/2020	
10.31	Form of Warrant Confirmation (2020).	8-K	001-35480	10.3	3/9/2020	
10.32	Purchase Agreement, dated March 4, 2020 by and among the Registrant and Barclays Capital Inc.	8-K	001-35480	10.3	3/9/2020	
10.33#	Form of Exchange agreement by and between Enphase Energy, Inc. and Linden Advisors LP dated December 14, 2020					X
10.34	Partial unwind agreement with respect to the Base Call Option Confirmation, dated December 14, 2020 between Enphase Energy, Inc. and Barclays Bank PLC.					X
10.35	Partial unwind agreement with respect to the Base Call Option Confirmation, dated December 14, 2020 between Enphase Energy, Inc. and Credit Suisse Capital LLC.					X
10.36	Partial unwind agreement with respect to the Base Warrants Confirmation, dated December 14, 2020 between Enphase Energy, Inc. and Barclays Bank PLC.					X
10.37	Partial unwind agreement with respect to the Base Warrants Confirmation, dated December 14, 2020 between Enphase Energy, Inc. and Credit Suisse Capital LLC.					X
10.38+	Offer Letter, dated January 16, 2018, and 2019 Merit Focal Review, dated May 10, 2019, to Jeffery McNeil.	10-Q	001-35480	10.4	7/30/2019	
10.39+	Offer Letter, by and between Enphase Energy, Inc. and Jamie Haenggi, dated August 21, 2020.	10-Q	001-35480	10.1	10/27/2020	
21.1	List of Subsidiaries of the Registrant					X
23.1	Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm					X
24.1	Power of Attorney (incorporated by reference to the signature page of this Annual Report on Form 10-K).					X
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a)/15d-14(a).					X
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a)/15d-14(a).					X
32.1*	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X
101.INS	XBRL Instance Document.					X
101.SCH	XBRL Taxonomy Extension Schema Document.					X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document.					X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.					X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.					X
101.PRE	XBRL Taxonomy Extension Presentation Document.					X

Exhibit Number	Exhibit Description	Form	Incorporation by Reference			Filed Herewith
			SEC File No.	Exhibit	Filing Date	
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibits 101)					X

+ Management compensatory plan or arrangement.

† Confidential treatment has been granted for certain portions of this exhibit. Omitted information has been filed separately with the Securities and Exchange Commission.

Certain portions of this exhibit have been omitted pursuant to Item 601(b)(2) of Regulation S-K.

* The certifications attached as Exhibit 32.1 accompany this annual report on Form 10-K pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed “filed” by Enphase Energy, Inc. for purposes of Section 18 of the Securities Exchange Act of 1934, as amended.

Item 16. Form 10-K Summary

Not Applicable

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 on February 12, 2021.

Enphase Energy, Inc.

By: /s/ BADRINARAYANAN KOTHANDARAMAN
Badrinarayanan Kothandaraman
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Badrinarayanan Kothandaraman and Eric Branderiz, jointly and severally, as his true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises hereby ratifying and confirming all that said attorneys-in-fact and agents, or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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 on the dates indicated.

Signature	Title	Date
/s/ BADRINARAYANAN KOTHANDARAMAN Badrinarayanan Kothandaraman	President and Chief Executive Officer (Principal Executive Officer)	February 12, 2021
/s/ ERIC BRANDERIZ Eric Branderiz	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	February 12, 2021
/s/ MANDY YANG Mandy Yang	Vice President, Chief Accounting Officer and Treasurer (Principal Accounting Officer)	February 12, 2021
/s/ STEVEN J. GOMO Steven J. Gomo	Director	February 12, 2021
/s/ JAMIE HAENGGI Jamie Haenggi	Director	February 12, 2021
/s/ BENJAMIN KORTLANG Benjamin Kortlang	Director	February 12, 2021
/s/ JOESEPH MALCHOW Joseph Malchow	Director	February 12, 2021
/s/ RICHARD MORA Richard Mora	Director	February 12, 2021
/s/ THURMAN JOHN RODGERS Thurman John Rodgers	Director	February 12, 2021

Exhibit 4.8

DESCRIPTION OF CAPITAL STOCK

General

Enphase Energy, Inc., or the Company, is authorized to issue up to 200,000,000 shares of common stock, $0.00001 par value per share, or common stock, and 10,000,000 shares of preferred stock, $0.00001 par value per share, or preferred stock.

The following summary description is based on the provisions of our certificate of incorporation, our amended and restated bylaws and the applicable provisions of the Delaware General Corporation Law. This information may not be complete in all respects and is qualified entirely by reference to the provisions of our certificate of incorporation, our amended and restated bylaws and the Delaware General Corporation Law. Our certificate of incorporation and our amended and restated bylaws are filed as exhibits to this Annual Report on Form 10-K to which this Description of Capital Stock is an exhibit.

Common stock

General. The following is a description of our common stock, which is the only security of the Company registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Dividend rights. Subject to preferences that may apply to shares of preferred stock outstanding at the time, the holders of outstanding shares of our common stock are entitled to receive dividends out of funds legally available if our board of directors, in its discretion, determines to declare dividends and then only at the times and in the amounts that our board of directors may determine.

Voting rights. Each holder of common stock is entitled to one vote for each share of common stock held on all matters submitted to a vote of stockholders. Our certificate of incorporation does not provide for the right of stockholders to cumulate votes for the election of directors. Our certificate of incorporation establishes a classified board of directors, which is divided into three classes with staggered three-year terms. Only one class of directors will be elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. These provisions in our amended and restated certificate of incorporation could discourage potential takeover attempts. See “Anti-Takeover Effects of Delaware Law and Our Charter Documents” below.

No preemptive or similar rights. Our common stock is not entitled to preemptive rights and is not subject to conversion or redemption provisions. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of any series of our preferred stock that we may designate and issue in the future.

Right to receive liquidation distributions. Upon our dissolution, liquidation or winding-up, the assets legally available for distribution to our stockholders are distributable ratably among the holders of our common stock, subject to prior satisfaction of all outstanding debt and liabilities and the preferential rights and payment of liquidation preferences, if any, on any outstanding shares of preferred stock.

The rights of the holders of our common stock are subject to, and may be adversely affected by, the rights of holders of shares of any preferred stock that we may designate and issue in the future.

Preferred stock

We are authorized, subject to limitations prescribed by Delaware law, to issue up to 10,000,000 shares of preferred stock in one or more series established by our board of directors. Our board of directors is authorized to establish from time to time the number of shares to be included in each series and to fix the designation, powers, preferences and rights of the shares of each series and any of its qualifications, limitations or restrictions. Our board of directors can also increase or decrease the number of shares of any series, but not below the number of shares of that series then outstanding, without any further vote or action by our stockholders. Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of the common stock. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring, discouraging or preventing a change in control of the Company and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock.

Anti-Takeover Effects of Delaware Law and Our Charter Documents

Some of the provisions of Delaware law may have the effect of delaying, deferring, discouraging or preventing another person from acquiring control of the Company.

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon closing of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned by (1) persons who are directors and also officers and (2) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines business combination to include the following:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

In general, Section 203 defines an “interested stockholder” as an entity or person who, together with the person’s affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation.

A Delaware corporation may “opt out” of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or bylaws resulting from a stockholders’ amendment approved by at least a majority of the outstanding voting shares. We have not elected to “opt out” of these provisions. The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire us. Certain provisions in our certificate of incorporation and our amended and restated bylaws could have an effect of delaying, deferring or preventing a change in control.

Choice of Forum

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware will be the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty owed by any director, officer or employee to us or our stockholders, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law or any action asserting a claim against us that is governed by the internal affairs doctrine. However, several lawsuits involving other companies have been brought challenging the validity of choice of forum provisions in certificates of incorporation, and it is possible that a court could rule that such provision is inapplicable or unenforceable.

Summary of Board of Director Compensation (Non-Employee Directors)

Enphase Energy, Inc.
Non-Employee Director Compensation Policy
Effective: November 1, 2020

Each member of the Board of Directors (the "Board") who is not also serving as an employee of Enphase Energy, Inc. ("Enphase") or any of its subsidiaries (each such member, a "Director") will receive the following compensation for his or her Board service following the effective date of this policy:

Annual Cash Compensation

The annual cash compensation amount set forth below is payable in equal quarterly installments, payable in arrears on the last day of each fiscal quarter in which the service occurred. If a Director joins the Board or a committee at a time other than effective as of the first day of a fiscal quarter, each annual retainer set forth below will be pro-rated based on days served in the applicable fiscal year, with the pro-rated amount paid for the first fiscal quarter in which the Director provides the service, and regular full quarterly payments thereafter. All annual cash fees are vested upon payment.

1. Annual Board Service Retainer:
    a. All Directors: $50,000
2. Annual Committee Chair Retainer:
    a. Chairman of the Audit Committee: $25,000
    b. Chairman of the Compensation Committee: $20,000
    c. Chairman of the Nominating & Corporate Governance Committee: $10,000
3. Annual Committee Member (non-Chair) Retainer:
    a. Audit Committee: $15,000
    b. Compensation Committee: $10,000
    c. Nominating & Corporate Governance Committee: $5,000
    d. Strategic Committee: $10,000
4. Annual Lease Independent Director Retainer: $20,000

Equity Compensation

The equity compensation set forth below will be granted under the Enphase 2011 Equity Incentive Plan (the "Plan") or (if applicable) any successor plan approved by Enphase's stockholders.

1. Annual Grant: On the date of each Enphase annual stockholder meeting, each Director will be automatically, and without further action by the Board, granted a restricted stock unit (RSU) award for a number of shares with a target fair value equal to $250,000, rounded down for any partial share. Such RSU award will vest in four (4) quarterly installments on the 15th day of August, November, February, and May following the grant date, subject to the Director's Continuous Service (as defined in the Plan).

2. Annual Grant to Lead Independent Director: On the date of each Enphase annual stockholder meeting, the Lead Independent Director will be automatically, and without further action by the Board, granted a restricted stock unit (RSU) award for a number of shares with a target fair value equal to $20,000, rounded down for any partial share. Such RSU award will vest in four (4) quarterly installments on the 15th day of August, November, February, and May following the grant date, subject to the Director's Continuous Service (as defined in the Plan).

Target fair value for the above RSU awards will be calculated using the closing stock price on the Nasdaq Global Market (or any successor exchange) on the grant date.

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted because it is both not material and would likely cause competitive harm to the Company if publicly disclosed.

Amendment No. 2
to
Master Supply Agreement

This Amendment No. 2 to Master Supply Agreement (the "*Amendment*"), having an effective date of October 15, 2020 ("*Amendment Effective Date*") to the Master Supply Agreement dated June 12, 2018 (as amended, the "*MSA*") is entered into by and between SunPower Corporation, a Delaware corporation with offices at 51 Rio Robles, San Jose, California 95134 ("*SunPower*"), and Enphase Energy, Inc., a Delaware corporation with offices at 47281 Bayside Parkway, Fremont, California 94538 (formerly at 1420 N. McDowell Blvd., Petaluma, CA 94954) ("*Enphase*"). Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the MSA.

Recitals

A. The Initial Term of the MSA ends on December 31, 2023 and the Parties desire to extend the Initial Term of the MSA as set forth herein.

B. The Parties also wish to amend the terms of the MSA as set forth herein.

Agreement

NOW, THEREFORE, for adequate consideration, the receipt of which is hereby acknowledged, the Parties agree to the following:

1. Amendment to Section 6.1 of the MSA. Section 6.1 of the MSA is hereby amended by replacing "December 31, 2023" with "March 31, 2024".

2. Amendment to Exhibit B, Base Price. Effective January 1, 2024, the Base Price set forth in Exhibit B for single-phase grid-tied MLPE Products, including standard wiring Cable Products for portrait mode installations, shall be [*].

3. Limitation. Except as otherwise specifically modified by this Amendment, all terms and provisions of the MSA, as modified hereby, shall remain in full force and effect. Nothing contained in this Amendment shall in any way impair the validity or enforceability of the MSA, as modified hereby, or alter, waive, annul, vary, affect, or impair any provisions, conditions, or covenants contained therein or any rights, powers, or remedies granted therein, except as otherwise specifically provided in this Amendment.

4. Counterparts. This Amendment may be signed originally or by facsimile or other means of electronic transmission in any number of counterparts, and by different parties hereto in separate counterparts, with the same effect as if the signatures to each such counterpart were upon a single instrument. All counterparts shall be deemed an original of this Amendment.

[signature page follows]

5. Integration. This Amendment and any documents executed in connection herewith or pursuant hereto contain the entire agreement between the parties with respect to the subject matter hereof and supersede all prior agreements, understandings, offers and negotiations, oral or written, with respect thereto and no extrinsic evidence whatsoever may be introduced in any judicial or arbitration proceeding, if any, involving this Amendment.

6. Governing Law. This Amendment shall be governed by and construed in accordance with the laws of the State of California, without regard to any conflicts of laws principles.

[signature page follows]

IN WITNESS WHEREOF, the parties have duly authorized and caused this Amendment to be executed as of the Date written below.

ENPHASE ENERGY, INC.

By: /S/ Eric Branderiz

Name: Eric Branderiz

Title: Chief Financial Officer
Date: October 28, 2020

By: /S/ Eric Branderiz
Name: Eric Branderiz
Title: Chief Financial Officer
Date: October 28, 2020

SUNPOWER CORPORATION

By: /S/ Manavendra Sial

Name: Manvendra Sial

Title: Executive Vice President and Chief Financial Officer
Date: October 27, 2020

By: /S/ Manavendra Sial
Name: Manavendra Sial
Title: Executive Vice President and Chief Financial Officer
Date: October 27, 2020

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted because it is both not material and would likely cause competitive harm to the Company if publicly disclosed.

Amendment No. 3
TO
Master Supply Agreement

This Amendment No. 3 to Master Supply Agreement (the "*Amendment*"), having an effective date of October 1, 2019 ("*Amendment Effective Date*") to the Master Supply Agreement dated June 12, 2018 (as amended, the "*MSA*") is entered into by and between SunPower Corporation, a Delaware corporation with offices at 51 Rio Robles, San Jose, California 95134 ("*SunPower*"), and Enphase Energy, Inc., a Delaware corporation with offices at 47281 Bayside Parkway, Fremont, California 94538 (formerly at 1420 N. McDowell Blvd., Petaluma, CA 94954) ("*Enphase*"). Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the MSA.

WHEREAS, SunPower desires to purchase certain other Enphase microinverters for purposes of using such microinverters as field replacement units ("***FRU***"s) in place of existing inverters in SunPower's Gen 1.x, Gen 2.x and Gen 3.x AC Module based solar systems (collectively, the "***Legacy Systems***", and the inverter replacement program shall be referred to as, the "***FRU Program***");

WHEREAS, Enphase wishes to sell such other products to SunPower for the FRU Program;

WHEREAS, the Parties have entered into the MSA for purposes of specifying the terms and conditions under which SunPower will purchase and Enphase will supply certain Enphase products to be used by SunPower;

WHEREAS, SunPower and Enphase now desire to further supplement and add additional Products (as defined below) to the scope of the MSA, including those to be used as part of the FRU Program;

AND WHEREAS; For purposes of this Amendment, "***Covered Product*s**" are defined as Enphase Products sold to SunPower hereunder as FRUs required to support Legacy Systems as further outlined in the table below:

SunPower MI	**W-ac**	**V-dc range**	**Enphase MI (each a "FRU Microinverter")**	**Gateway**
Gen 3.x	320	20-64	IQ7XS-96-2-US	Sunpower PVS6
Gen 2.x	238	25-50	IQ7PD-84-2-US	Enphase Envoy or AC Combiner
Gen 1.x	225	25-50	IQ7PD-84-2-US	Enphase Envoy or AC Combiner

NOW, THEREFORE, for adequate consideration, the receipt of which is hereby acknowledged, the Parties agree to the following:

1. **Covered Products.** SunPower shall purchase and Enphase shall supply Covered Products, including those necessary for SunPower to mount the FRU Microinverter to a SunPower Legacy System as a replacement for an existing inverter that is part of the Legacy System. The applicable data sheet for the FRU Microinverters are attached hereto as Attachment A.

2. **Pricing**. Enphase shall supply and SunPower shall purchase Covered Products at the prices listed in Attachment B to this Amendment, attached hereto. As used in this Amendment, Covered Products does not include any other Products supplied under the terms of the MSA. All references to a quarter, or "Q", in this Amendment means the three month calendar period, starting with Q1 being January 1st through March 31st of the respective year. For the avoidance of doubt, this Attachment B shall apply solely to the FRUs made available under this Amendment and, except as expressly set forth herein, shall in no way modify the Exhibit B agreed upon in Amendment No. 2 to the MSA.

3. **Forecasts.** Section 2.1 of the MSA (Forecasts) shall be applicable to the Covered Products.

4. **Volume.** Enphase shall sell and SunPower shall purchase the volume of FRU Microinverters set forth for each period specified in Attachment B. All Covered Products supplied to SunPower under this Amendment shall be included for purposes of calculating the Volume-Based Price Adjustment under the MSA.

5. **FRU Program Requirements**. The Parties agree that microinverter reliability is an important aspect of the FRU Program and it is critical to ensure that each microinverter can be remotely monitored and updated in order to lead to that desired reliability. Accordingly, the Parties agree to the following:

    a. Complete Legacy System Replacement. If SunPower replaces any one inverter on a Legacy System with a FRU Microinverter, SunPower shall replace each and every existing inverter on such Legacy System with an Enphase FRU Microinverter (such action referred to as a "***Full Site Replacement***"). Upon future review of technical feasibility and mutual agreement of both Parties, SunPower may elect to perform partial replacement at a site at a later date.

    b. Required Software Updates. For systems connected to Enphase's Envoy systems, Enphase will follow the Sunpower PCN process and notify SunPower of any updates prior to performing upgrades. For systems connected to PVS6, software updates shall be carried out in accordance with the MSA.

c. Gateway Product. For each replacement with IQ7XS-96-2-US, SunPower shall ensure that each IQ7XS-96-2-US unit is connected to a SunPower PVS6 or compatible gateway product, with the ability to remotely commission, monitor, control and provide the firmware upgrade capability on each FRU Microinverter. For each replacement with IQ7PD-84-2-US SunPower shall ensure that each IQ7PD-84-2-US unit is connected to an Enphase Envoy with the ability to remotely commission, monitor, control and provide the firmware upgrade capability on each FRU Microinverter. Enphase and Sunpower shall cooperate to develop relevant System APIs to provide performance data to SunPower.

d. Data Sharing. SunPower shall gather the performance data described in Attachment D-1 in relation to a SunPower PVS6 product (the "***Data***") and make such Data available to Enphase for the previous [*] (at a minimum), on a rolling basis, refreshed no less frequently than weekly (provided that SunPower shall make available one month of Data promptly following the date this Amendment is signed and shall provide each subsequent month's Data until the aforementioned three (3) months of Data is available), including, without limitation, the data points set forth in Attachment D-1, attached hereto and incorporated by reference. The Data is made available "as-is" and SunPower makes no representation or warranty whether express or implied, including accuracy, completeness, or any implied warranties of title, non-infringement, quiet enjoyment, integration, merchantability or fitness for a particular purpose with respect to such Data. Following the first month in which three (3) month's Data has been made available, Enphase shall make a payment of [*] to SunPower for purposes of maintaining the database and equipment necessary to provide Data to Enphase under this Section. For the avoidance of doubt, Enphase will have no obligation to pay the [*] that SunPower fails to provide at least [*] worth of then-current data. Each party shall comply with the Data Protection Addendum ("**DPA**") attached hereto as Attachment D-2. For the avoidance of doubt, the parties acknowledge that Enphase's access to the Data is not part of the consideration exchanged by the parties in connection with the MSA. The Parties agree to discuss in good faith the feasibility of a data-porting integration enabling the provision of the Data to Enphase, after which SunPower will no longer be required to provide, and Enphase will no longer be required to pay for, the above-referenced database, and the terms of any such arrangement shall subject to mutual agreement by the parties in a separate definitive agreement.

e. Racking system. SunPower shall (i) use the Invisimount racking or other UL 2703 compliant racking system for Legacy Systems requiring this certification at the time of install and (ii) for systems installed prior to this requirement, SunPower will use an UL approved racking system. For racking

components that affix directly to the FRU Microinverter, SunPower will use UL2703 listed components. In case a suitable racking system is not available, SunPower may use approved frame mounting solutions for replacements. Notwithstanding the foregoing, SunPower will not use any racking system or frame mounting solution unless it has been approved in writing by Enphase ("***Approved Racking***"). All Approved Racking must ensure sufficient protection of the FRU Microinverter from the elements and ample clearance from the roof for proper thermal dissipation. The Approved Racking shall be specified in the Installation Manual and communicated to all SunPower FRU Program installation teams. A copy of the Manual is attached hereto as Attachment C.

f. Installation Manual (the "***Manual***") Review. For IQ7XS-96-2-US, the Parties agree that they will jointly review the Manual from time to time, including for purposes of improving or clarifying instructions and to incorporate best-known methods. For IQ7PD-84-2-US, the standard Enphase Installation Manual (Feb 2020, 141-00043-04) will be used. The manuals described in this Section (f) are collectively referred to as the "Manual". Enphase will follow PCN process to notify SunPower any changes on the Manual.

g. Exclusions under the Limited Warranty. In addition to the terms set forth in Section 4.1 of the MSA, "Limited Warranty", the following terms are added: a non-conforming FRU Microinverter shall not be eligible for the Limited Warranty if any of the following occur:

(i) Connectors other than the MC4 DC connectors set forth in the Manual are used on IQ7XS FRU units;
(ii) Connectors other than MC4 DC connectors set forth in the Manual are used on the IQ7PD FRU units unless the other connectors are identified, reviewed by both parties, such other connectors successfully complete UL compatibility testing or UL approval, and are approved in writing by both parties, in advance;
(iii) Full Site Replacement is not completed; or partial site replacement is completed without both Parties' agreement;
(iv) It has not been connected to a SunPower PVS6, Enphase Envoy, or compatible gateway product;
(v) Its firmware has not been updated by SunPower as requested by Enphase per MSA;
(vi) It has been installed on a racking system other than an Approved Racking system;
(vii) The failure is caused by a JBOX DC connector attached to SunPower PV module; and / or
(viii) It has not been installed in accordance to the Manual and failure is caused by improper installation.

6. **Payment terms**. Payment for Covered Products shall be made in accordance with the MSA, except as set forth in Attachment B attached hereto.

7. **Shipping & Delivery.** Shipping and delivery of Covered Products shall be made in accordance with the MSA, except as set forth in Attachment B attached hereto.

8. **Full Force and Effect.** Except as expressly set forth herein, the terms of the MSA remain in full force and effect with respect to the Covered Products.

9. **Governing Law.** This Amendment shall be governed by and construed in accordance with the laws of the State of California, without regard to any conflicts of laws principles.

[signature page follows]

IN WITNESS WHEREOF, the parties have duly authorized and caused this Amendment to be executed as of the Date written below. This Amendment may be signed in counterparts, with the same effect as if each were upon a single instrument.

ENPHASE ENERGY, INC.

By: /S/ Eric Branderiz

Name: Eric Branderiz

Title: Chief Financial Officer
Date: October 28, 2020

By: /S/ Eric Branderiz
Name: Eric Branderiz
Title: Chief Financial Officer
Date: October 28, 2020

SUNPOWER CORPORATION

By: /S/ Manavendra Sial

Name: Manvendra Sial

Title: Executive Vice President and Chief Financial Officer
Date: October 27, 2020

By: /S/ Manavendra Sial
Name: Manavendra Sial
Title: Executive Vice President and Chief Financial Officer
Date: October 27, 2020

Attachments:

Attachment A – Enphase IQ™ 7 XS Data Sheet
Attachment B – Pricing, Volumes, Shipping and Payment
Attachment C – SunPower Installation Manual
Attachment D-1 – Data Specifications
Attachment D-2 – Data Protection Addendum

Attachment A – Enphase IQ™ 7 XS Data Sheet

[*]

Attachment B

Pricing, Volumes, Shipping and Payment

Enphase MPN	SPWR Part #	Enphase Description	Enphase UoM	Packaging	Inco terms	Payment Terms	2020 Price/Unit	2021 Price/Unit
IQ7XS-96-2-US	533855	96 cell discrete IQ7XS Microinverter for replacing legacy Sunpower/Solarbridge AC modules with Q-DCC-2 and metal mounting plate included (PVS6 support only)	1ea	1 Box of 18 Units	FCA Long Beach	[*]	[*] [*] [*]	[*]
ENV-IQ-AM1-240	535944	IQ Envoy, single phase, metered. Revenue grade accuracy (ANSI C12.20 +/- 0.5%) with calibrated solid-core CT	1ea	1 Box of 12 units	FCA Long Beach	[*]	[*]	[*]
IQ7PD-84-2-US	535945	IQ7 Power Down Microinverter with 220 VA peak power supporting PV modules of 250W and lower with Q-DCC-2 and metal mouting plate include (Envoy support only)	1ea	1 Box of 18 Units	FCA Long Beach	[*]	[*]	[*]

1. Minimum Volume Commitment. SunPower agrees to purchase and Enphase agrees to sell to SunPower, during the period from [*], a minimum of (i) [*] Enphase IQ7XS-96-2-US microinverters and (ii) [*] Enphase IQ7PD-84-2-US microinverters.

2. Shipping. Covered Products shall be delivered FCA (Incoterms 2010) Long Beach Enphase warehouse. Enphase may make partial shipments of the Covered Products, and each shipment will constitute a separate sale. SunPower also will pay shipping charges in accordance with FCA. Title to Covered Products shipped under any Purchase Order shall pass to SunPower upon delivery of such Covered Products to SunPower at Long Beach Enphase warehouse.

3. Payment. SunPower shall pay each Invoice for Covered Products in accordance with the MSA, except that terms of payment for Covered Products shall be net [*] days from the date of Invoice and payment shall be made regardless of whether shipment is in whole or partial fulfillment of a Purchase Order.

Attachment C

[*]

Attachment D-1

Data Specifications

		Remarks
Item #	Feature	At the current polling frequency (2.5 min) or a modified polling rate as agreed upon by both parties to exceed no more than a 15 min interval
1	Telemetry data Microinverter [Raw]	Fields include (temp, acv, acw, aci, dcv, dcw, dci, freq, lte, timestamp, polling freq)
2	Telemetry data Microinverter [Aggregated]	Fields include (temp, acv, acw, aci, dcv, dcw, dci, freq, lte, timestamp, polling freq)
3	Microinverter firmware upgrade information	Prior upgrades, upgrade date etc to be provided as part of data table, separate from the Splunk database
	Microinverter PL	PL to be provided as decimal value in splunk
5	PVS status	To be provided as part of data table, separate from the Splunk database
6	PVS SW Information	Prior upgrades, upgrade date etc to be provided as part of data table, separate from the Splunk database
7	Events [Raw]	Enphase condition messages, including Gate fix, Grid Outage, Temp Event, Skip Event, and other events
8	Events [Aggregated]	Daily count of events for individual microinverters
9	Location details	AddressID and site zip code to be provided as part of data table, separate from the Splunk database
10	Temperature data Microinverter	Tmax, Tmin
11	Grid details	Grid profile name, settings, upgrade
12	Micro PN, Assly Num	
13	Created Date	To be provided as part of data table, separate from the Splunk database
14	First Report Date	To be provided as part of data table, separate from the Splunk database
15	Last report Date	To be provided as part of data table, separate from the Splunk database
16	Days flags	To be provided as part of data table, separate from the Splunk database
17	Bridge fault per day	To be provided as part of data table, separate from the Splunk database

Data parameters being provided and refreshed as appropriate in the data table titled “Enphase Distribution List of Installed Units” as of September 25, 2020 will continue to be provided unless both parties agree to add, remove, or modify fields. Such data fields include the following:

- CSV file: Contain list of all installed microinverters in the field (Updated weekly)
- Energy Link: A tool for visual analysis of microinverter/sites long term performance. Data downloadable in CSV format (polling 5 minutes)
- Splunk: Data stored in both granular level and at aggregated level as well. Contains telemetry data, events data, configuration data, power drops, bridge faults, etc. Within Splunk it is structured in indexes as below:
  - dev_enp_enphasemipolldaily_summary - daily aggregation of every MI in the Enphase fleet with key daily metrics like daily power, number of reports, and temperature delta (polling 1 day)
  - dev_rap_enphasealerts_summary - daily aggregation of every MI in the Enphase fleet with focus on alerts - count of different types of alerts (polling 1 day)
  - dev_rap_enphasemiflag_summary - daily aggregation of MI's with questionable behavior along with some key metrics to quantify the daily behavior (polling 1 day)

- dev_rap_enphasebridgefaultcndduration_summary - daily aggregation of skip event duration and event count to focus on skip event issues (polling 1 day)
- enphase - most granular polling data for Enphase inverters, includes MIPoll, EnCnd (MI Alerts), HighSkipRate, and other enphase-specific MI messages (polling 2.5 minutes)
- dev_enp_allalerts_summary - a dump of all Enphase alerts produced by the flexet, sent into a summary index for storage (polling 1 day)
- prod_rap_mimecfg_summary - all PVS configuration files for all PVS (use type="Enphase") (polling 1 day)
- dev_enp_enphasemipolldaily_- daily aggregation of every MI in the Enphase fleet with key daily metrics like daily power, number of reports, and temperature delta (polling 1 day)
- dev_rap_enphasemiweekly_summary - weekly aggregation of MI performance metrics - used to identify underperforming units. Currently not returning records. (polling weekly)
- dev_rap_enphasemiflag_summary - daily aggregation of MI's with questionable behavior along with some key metrics to quantify the daily behavior (polling 1 day)
- dev_rap_enphasebridgefaultcndduration_summary - daily aggregation of skip event duration and event count to focus on skip event issues (polling 1 day)
- dev_enp_allalerts_summary - a dump of all Enphase alerts produced by the flexet, sent into a summary index for storage (polling 1 day)
- prod_rap_mimecfg_summary - all PVS configuration files for all PVS (use type="Enphase") (polling 1 day)
- dev_enp_enphasemipolldaily_summary - daily aggregation of every MI in the Enphase fleet with key daily metrics like daily power, number of reports, and temperature delta (polling 1 day)
- dev_rap_enphasemiweekly_summary

Notwithstanding the foregoing, ninety (90) days following the Amendmnet Effective Date the Parties will meet in good faith to determine whether the data fields in the following “Conditions” data set are reasonably required for Enphase to conduct failure analysis in connection with its limited warranty obligations to SunPower’s end user customers. If mutually agreed upon by the Parties in good faith, some or all of the data fields below may be removed from the list of data which SunPower is obligated to provide to Enphase pursuant to Section 5(d) of the Amendment:

dev_rap_enphasemiflag_summary - daily aggregation of MI's with questionable behavior along with some key metrics to quantify the daily behavior (polling 1 day)

dev_rap_enphasebridgefaultcndduration_summary - daily aggregation of skip event duration and event count to focus on skip event issues (polling 1 day)

dev_enp_allalerts_summary - a dump of all Enphase alerts produced by the flexet, sent into a summary index for storage (polling 1 day)

prod_rap_mimecfg_summary - all PVS configuration files for all PVS (use type="Enphase") (polling 1 day)

dev_enp_enphasemipolldaily_summary - daily aggregation of every MI in the Enphase fleet with key daily metrics like daily power, number of reports, and temperature delta (polling 1 day)

dev_rap_enphasemiweekly_summary

Attachment D-2

Data Protection Addendum (“DPA”)

1. DEFINITIONS

To the extent not otherwise defined in the parties’ MSA or purchase order, terms defined in this DPA shall bear the below meanings and cognate terms shall be construed accordingly.

1.1. “**Applicable Regulation**” means, to the extent applicable, all regulations and applicable industry standards in force on data protection and data privacy relating to that Personal Information for each relevant jurisdiction where Supplier provides services to SunPower, e.g., federal laws, state laws (including, if applicable, the California Consumer Privacy Act (“CCPA”)), Gramm-Leach-Bliley Act (“GLBA”), California's Social Security Number Confidentiality Law, Cal. Civ. §1798.85, Nevada SB 220, New York’s Stop Hacks and Improve Electronic Data Security Act (“Shield Act”), and Payment Card Industry Data Security Standard (“PCI-DSS”)).

1.2. “**Affiliate**” for the purpose of data processing means an entity that owns or controls, is owned or controlled by, or is or under common control or ownership with another entity (control is defined as the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of an entity, whether through ownership of voting securities, by contract or otherwise).

1.3. “**Consumer**” means a natural person.

1.4. “**Business**” means a legal entity that is organized or operated for the profit or financial benefit of its shareholders or other owners that collects Consumers’ Personal Information, or on behalf of whom such information is collected and that alone, or jointly with others, determines the purposes and means of the processing of Consumers’ Personal Information.

1.5. “**Business Purpose**” means the use of Personal Information for the Business’s or service provider’s operational purposes, or other notified purposes, provided that the use of Personal Information is reasonably necessary and proportionate to achieve the operational purpose for which Personal Information was collected or processed or for another operational purpose that is compatible with the context in which Personal Information was collected.

1.6. “**Collects**,” “**collected**,” or “**collection**” means buying, renting, gathering, obtaining, receiving, or accessing any Personal Information pertaining to a Consumer by any means.

1.7. “**Commercial Purposes**” means to advance a person’s commercial or economic interests, such as by inducing another person to buy, rent, lease, join, subscribe to, provide, or exchange products, goods, property, information, or services, or enabling or effecting, directly or indirectly, a commercial transaction.

1.8. “**Environment**” means all equipment, work stations, servers, cloud environments, mobile devices, networks, storage devices, applications and other systems where SunPower’s Personal Information may be transmitted, Processed, or stored.

1.9. “**Personal Information**” shall have the meaning ascribed to it by the Applicable Regulations. For purposes of this DPA, Personal Information is limited to the Personal Information provided to Supplier by SunPower.

1.10. **“Process,” “Processing,**” and **“Processes”** refer to any operation or set of operations that are performed on Personal Information or on sets of Personal Information, whether or not by automated means.

1.11. “**Sell**” means selling, renting, licensing to others, releasing, disclosing, disseminating, making available, transferring, or otherwise communicating orally, in writing, or by electronic or other means, a Consumer’s Personal Information by the Business to another Business or a third party for monetary or other valuable consideration.

1.12. “**Service Provider**” means a legal entity that is organized or operated for the profit or financial benefit of its shareholders or other owners that Processes information on behalf of a Business and to which the Business discloses a Consumer’s Personal Information for a Business Purpose.

1.13. “**Services**” means the services or other activities to be supplied to or carried out by or on behalf of Supplier for SunPower pursuant to the parties’ MSA or purchase order, including providing technical support, root cause or performance analysis, improving Supplier’s Products, maintaining records, complying with legal obligations,

exercising rights and obligations with respect to the MSA, and other related services in connection with Supplier's warranty obligations.

1.14. "**Subcontractor**" means a person (but excluding any employee of Supplier) engaged or appointed by Supplier to receive or Process Personal Information on behalf of SunPower in connection with the MSA or purchase order.

1.15. "**Supplier**" means Enphase.

1.16. "**Security Breach**" means a breach of security leading to the accidental or unlawful unauthorised disclosure of, or access to, Personal Information.

2. AUTHORITY

2.1. Supplier warrants and represents that it has the requisite authority to enter into this DPA on behalf of any of its Affiliates that will Process Personal Information as an agent of Supplier and on behalf of SunPower.

2.2. SunPower warrants and represents that (i) it has the requisite authority to enter into this DPA on beahf of any of its Affiliates and that it will provide the Data to Supplier for the purposes set forth herein; and (ii) it shall at all times comply with Applicable Regulations in the provision of Personal Information to Supplier.

3. DATA PROCESSING

3.1. The parties acknowledge and agree that Supplier is a Service Provider providing Services to and Processing Personal Information on behalf of SunPower, a Business.

3.2. Supplier shall at all times comply with Applicable Regulations in the Processing of the Personal Information.

3.3. When Supplier Processes Personal Information on behalf of SunPower, Supplier shall not:

3.3.1. retain, use, or disclose Personal Information it receives, collects or Processes in connection with the Services for any purpose other than for performing the Services in the MSA and in accordance with the terms of this DPA, the parties' MSA and SunPower's instruction;

3.3.2. use or Process Personal Information for Commercial Purposes or direct marketing;

3.3.3. Sell or promote the sale of Personal Information; and

3.3.4. disclose or transfer Personal Information to unauthorized personnel or parties.

3.4. Supplier shall without undue delay notify SunPower in writing if it determines or reasonably suspects its inability to comply with its obligations set forth in Section 3.3 above. Upon any such notice to SunPower, Supplier shall promptly cease all use of Personal Information hereunder, but its obligations regarding safeguarding information shall remain in effect.

3.5. Supplier shall be entitled to (i) create and derive from Processing the Personal Information anonymized and/or aggregated data that does not identify SunPower or any natural person, and (ii) use, publicize or share with third parties such data to improve Supplier's products and services and for other lawful business purposes.

4. PERSONNEL AND SUBCONTRACTORS

4.1. Supplier will take reasonable steps to ensure that each of its employees and agents who Process Personal Information are made aware of Supplier's obligations under this DPA, and where required by Applicable Regulation, shall require that they enter into binding obligations with Supplier as appropriate to maintain the levels of security and protection required under this DPA.

4.2. Supplier shall strictly limit access to Personal Information to those individuals who need to know, as necessary for the purpose of providing Services.

4.3. Supplier will only engage a Subcontractor provided that a written contract is executed by Supplier with the Subcontractor that includes obligations to use same degree of care in safeguarding the Personal Information as it uses to safeguard its own confidential information, but in no event less than reasonable care . Supplier acknowledges and agrees that it remains obligated and fully liable to SunPower for the acts and omissions of any Subcontractor in connection with this Section 4.3.

5. SECURITY

5.1. Supplier represents and warrants that, in connection with the Services provided to SunPower, Supplier shall at all times have in place, maintain, and use all necessary and reasonable technical, physical and organizational measures

commensurate with the industry standards for information security, applicable law, and the sensitivity of Personal Information collected, handled, stored, and otherwise Processed, in order to help ensure:

5.1.1. the security of Personal Information against any Security Breach;

5.1.2. the confidentiality of Personal Information, by ensuring that persons authorized to access, view, and/or otherwise Process Personal Information are given such rights based only on a need for such access in connection with the Services; and

5.1.3. to the extent relevant, that its access to SunPower's systems and/or networks, including any credentials thereto, shall be properly created, secured, maintained and architected such that it shall not pose a material security risk or threat to or otherwise expose SunPower's Environment, data, website, systems, landing pages, Consumers or customers.

5.2. Supplier shall notify SunPower, or its preferred contact, immediately and not to exceed twenty-four (24) hours, after becoming aware of the Security Breach by phone (not including a voice or text message) and in writing (but not by unsecured email) at help@sunpowercorp.com specifying the extent to which SunPower's Personal Information was compromised or disclosed, and will take all reasonable measures required to rectify the Security Breach as soon as possible. In this regard, Supplier at a minimum will:

5.2.1. investigate the Security Breach, perform a root cause analysis thereon, and report its findings to SunPower; and

5.2.2. provide SunPower with a remediation plan to address the Security Breach and regularly keep SunPower informed as and when remedial or containment actions are implemented.

5.3. Supplier agrees that it will not inform any third party of any Security Breach without first obtaining SunPower's prior written consent, other than to inform a complainant that the matter has been forwarded to SunPower's legal counsel. Further, Supplier agrees that SunPower shall have the sole right to determine the contents of any such notice of a Security Breach, whether any type of remediation may be offered to affected Consumers, and the nature and extent of any such remediation.

5.4. To the extent agreements between the parties do not designate a notice contact, notices under this Section should be sent via email to LegalNoticeSunPower@sunpowercorp.com ATTN: General Counsel.

5.5. Supplier shall, at all times they are providing services to SunPower or remain in possession of Personal Information belonging to SunPower, maintain in force, at its own expense, insurance coverage appropriate to ensure proper performance of its obligations hereunder.

6. AUDITS AND INFORMATION REQUESTS

6.1. Supplier shall, for no additional compensation, (1) provide to SunPower, at its request, an Officer's Certificate from a member of Supplier's C-Suite confirming Supplier's compliance with the obligations stipulated in this DPA; and (2) reasonably assist Supplier, at Supplier's expense, in ensuring compliance with Applicable Regulation, including audits or inquiries from law enforcement or government authorities, taking into account the nature of the Processing and the information available to Supplier.

7. TERMINATION

7.1. Upon termination of the MSA Supplier shall promptly anonymize all Personal Information, as well as any existing copies. Within ten (10) days of returning or destroying such information, Supplier shall provide a certification to SunPower confirming same.

7.2. In the event Applicable Regulation does not permit Supplier to comply with the return or deletion of Personal Information, Supplier warrants that it will ensure the confidentiality and protection of Personal Information and that it will not Process Personal Information transferred after termination of the relationship.

8. INDEMNIFICATION & LIABILITY

8.1. Supplier will defend, at its own expense, any claim, suit or proceeding brought by an unaffiliated third party (a "**Claim**") against SunPower to the extent it is based upon an allegation that Supplier materially breached the terms of this DPA, and, provided SunPower complies with the provisions hereof and is not otherwise in material breach of any

provision of this DPA, Supplier will pay all settlement amounts and damages, costs and expenses finally awarded to third parties against SunPower in such action.

8.2. SunPower will defend, at its own expense, any Claim against Supplier to the extent it is based upon an allegation that SunPower materially breached the terms of this DPA, and provided Supplier complies with the provisions hereof and is not otherwise in material breach of any provision of this DPA, SunPower will pay all settlement amounts and damages, costs and expenses finally awarded to third parties against SunPower in such action.

8.3. The obligation of the indemnifying party (the "**Indemnifying Party**") to defend the other party (the "**Indemnified Party**") is conditioned upon the Indemnified Party promptly notify Indemnifying Party in writing of any such claim or action and giving the Indemnifying Party full information and assistance in connection therewith. The Indemnifying Party shall have the sole right to control the defense and settlement of any such claim or action. The Indemnifying Party will not settle any Claim without the written consent of the Indemnified Party; provided, however, that, after reasonable notice, the Indemnifying Party may settle a claim without the Indemnified Party's consent if such settlement (A) makes no admission or acknowledgment of liability or culpability with respect to the Indemnified Party, (B) includes a complete release of the Indemnified Party and (C) does not seek any relief against the Indemnified Party other than the payment of money damages to be borne by the Indemnifying Party. The Indemnified Party will cooperate in all reasonable respects with the Indemnifying Party and its attorneys in the investigation, trial and defense of any Claim and any appeal arising therefrom (including the filing in the Indemnified Party's name of appropriate cross-claims and counterclaims). The Indemnified Party may, at its own cost, participate in any investigation, trial and defense of any Claim controlled by the Indemnifying Party and any appeal arising therefrom, including participating in the process with respect to the potential settlement or compromise thereof. Notwithstanding any other language in the MSA or DPA, the Indemnifying Party will have no liability under this Section 8 for any Claim to the extent arising as a result of the Indemnified Party's material breach of its obligations under the MSA or the DPA.

9. LIMITATION OF LIABILITY

EXCEPT FOR AMOUNTS PAYABLE UNDER SECTION 8 (INDEMNIFICATION AND LIABILITY) OF THIS DPA, IN NO EVENT WILL EITHER PARTY BE LIABLE TO THE OTHER PARTY FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES ARISING FROM ANY CLAIM OR ACTION BASED ON OR RELATED TO THIS DPA, REGARDLESS OF WHETHER SUCH CLAIM OR ACTION IS BASED ON CONTRACT, TORT, OR OTHER LEGAL THEORY, AND REGARDLESS OF WHETHER OR NOT SUCH DAMAGES WERE FORESEEABLE OR WHETHER OR NOT THE PARTY WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE LIMITATIONS OF LIABILITY DO NOT APPLY WITH RESPECT TO (i) LOSSES SUFFERED, INCURRED, OR SUSTAINED BY A PARTY OCCASIONED BY (A) THE FRAUD, WILLFUL MISCONDUCT OR GROSS NEGLIGENCE OF THE OTHER PARTY OR ITS AGENTS. EXCEPT FOR AMOUNTS PAYABLE UNDER SECTION 8 (INDEMNIFICATION AND LIABILITY) OF THIS DPA, SUPPLIER'S TOTAL CUMULATIVE LIABILITY ARISING FROM OR RELATING TO THIS DPA, WHETHER IN CONTRACT OR TORT OR OTHERWISE, WILL NOT EXCEED $100,000.

10. MISCELLANEOUS

10.1. The parties acknowledge and agree that the terms and conditions of this DPA shall survive the termination of the MSA or any other agreement between the parties and shall remain in full force and effect for the entire time Supplier remains in possession or control of Personal Information.

10.2. In the event of modifications, amendments or changes to Applicable Regulations, the parties agree to cooperate in good faith with respect to any necessary modifications or amendments to this DPA, to the extent required. Each party shall further take reasonable measures to remain compliant with any such changes in the Applicable Regulation.

CONSENT AND WAIVER TO
STOCKHOLDERS AGREEMENT

This **CONSENT AND WAIVER TO STOCKHOLDERS AGREEMENT** (this "**Consent and Waiver**") is dated as of October 15, 2020 (the "**Effective Date**"), and is entered into by and among **SUNPOWER CORPORATION**, a Delaware corporation (the "**SunPower**"), **SUNPOWER EQUITY HOLDINGS, LLC**, a Delaware limited liability company ("**SunPower Equity Holdings**"), **TOTAL SE**, a societas europaea (formerly known as Total S.A.; "**Total**" and, together SunPower and SunPower Equity Holdings, the "**Stockholders**"), and **ENPHASE ENERGY, INC.**, a Delaware corporation (the "**Company**" and, with the Stockholders, the "**Parties**" and each a "**Party**"). Initially capitalized terms used but not otherwise defined in this Consent and Waiver have the respective meanings given to them in the Stockholders Agreement.

RECITALS

A. The Company and SunPower entered into that certain Stockholders Agreement, dated as of August 9, 2018 (the "**Agreement**"), to establish certain rights, restrictions and obligations of SunPower with respect to the Company Securities Beneficially Owned by SunPower.

B. SunPower and its Affiliate, SunPower Equity Holdings, entered into that certain Joinder to Stockholders Agreement and Guarantee, dated as of September 24, 2019, whereby SunPower Equity Holdings agreed to be a party to, to be bound by, and to comply with the provisions of the Agreement as a "Stockholder", with all obligations and rights of the "Stockholder" under the Agreement, except as set forth therein.

C. SunPower and its Affiliate, Total, entered into that certain Joinder to Stockholders Agreement and Guarantee, dated as of October 29, 2019, whereby Total agreed to be a party to, to be bound by, and to comply with the provisions of the Agreement as a "Stockholder", with all obligations and rights of the "Stockholder" under the Agreement, except as set forth therein.

D. In accordance with the terms of the Agreement, the Stockholders Transferred 1,000,000 shares of Company Securities during a period beginning on August 5, 2020 and ending on August 28, 2020 (the "**Prior Transfer**").

E. Pursuant to Section 5.1(b) of the Agreement, the Transfer of more than 1,000,000 shares of Company Securities by the Stockholders during any trailing six-month period requires the prior written consent of the Company.

F. The Stockholders desire to Transfer up to an additional 1,000,000 shares of Company Securities (the "**Transferred Securities**" and, such Transfer, the "**Q4 Sale**") within six months of the Prior Transfer and the Company desires to consent to such Transfer.

CONSENT AND WAIVER

The Parties hereby agree to this Consent and Waiver in consideration of the mutual conditions and agreements set forth Stockholders Agreement and this Consent and Waiver, and
other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, as follows:

1. Consent and Waiver; the Q4 Sale.

(a) In accordance with Sections 5.1(b) and 8.6 of the Agreement, the Company hereby consents to the Q4 Sale and, notwithstanding anything to the contrary therein, the provisions of Section 5.1 of the Agreement are hereby waived solely as to the Q4 Sale in accordance with the terms herein.

(b) The Transfer of any Company Securities as part of the Q4 Sale shall be made so that, on the date of any Transfer, not more than 1,000,000 shares of Company Securities, including the Transfer, will have been Transferred during the prior three-months.

2. **Subsequent Sale.** The Parties agree that, notwithstanding anything to the contrary in Section 5.1(b) of the Agreement, following the Q4 Sale, the next such Transfer of Company Securities undertaken by the Stockholders shall be made so that, on the date of any Transfer, not more than 2,000,000 shares of Company Securities, including the Transfer, will have been Transferred during the prior twelve-months (such Transfer or Transfers collectively, the "**Subsequent Sale**"). For the avoidance of doubt, (a) following the consummation of the Subsequent Sale, Section 5.1(b) shall govern any subsequent Transfers of Company Securities by the Stockholders and (b) for any Transfer, including the Q4 Sale and the Subsequent Sale, the manner, volume, price and other terms of any such Transfer shall be made at the sole discretion of the Stockholders, subject to the limitations set forth herein .

3. **Effectiveness of Waiver; Limited Effect; No Modifications**. This Consent and Waiver will become effective on the Effective Date. The waiver set forth above relates solely to Transfer of the Transferred Securities by the Stockholders in the manner and to the extent described above, and nothing in this Consent and Waiver shall be deemed to constitute a waiver by the Company of compliance with respect to any other term, provision or condition of the Agreement or any other instrument or agreement referred to therein. Nothing contained in this Consent and Waiver will be deemed or construed to amend, supplement or modify the Agreement (including, without limitation, the provisions of Section 5.1(b) thereof) or otherwise affect the rights and obligations of any party thereto, all of which remain in full force and effect.

4. **Miscellaneous**. The terms and provisions of Section 8 of the Agreement are incorporated herein by reference, *mutatis mutandis*.

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed and delivered this Consent and Waiver as of the last Date below.

Stockholders:

SUNPOWER CORPORATION,
a Delaware corporation

By: /S/ Manavendra Sial Name: Manavendra Sial
Title: Executive Vice President and Chief Financial Officer
Date: October 27, 2020

SUNPOWER EQUITY HOLDINGS, LLC,
a Delaware limited liability company

By: **SUNPOWER CORPORATION**, a
Delaware corporation, its sole member

By: /S/ Manavendra Sial Name: Manavendra Sial
Title: Executive Vice President and Chief Financial Officer
Date: October 27, 2020

By: **TOTAL SE**,
a societas europaea

By: /S/ Jean Pierre Sbraire Name: Jean Pierre Sbraire
Title: Chief Financial Officer
Date: November 18, 2020

ENPHASE ENERGY, INC.,
a Delaware corporation

By: /S/ Eric Branderiz Name: Eric Branderiz
Title: Chief Financial Officer
Date: October 28, 2020

[SIGNATURE PAGE TO CONSENT AND WAIVER TO STOCKHOLDERS AGREEMENT]

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted because it is both not material and would likely cause competitive harm to the Company if publicly disclosed.

Manufacturing Services Agreement

This Manufacturing Services Agreement **("Agreement")** is entered into on October 1, 2019 ("**Effective Date**"), by and between:

A. Enphase Energy, Inc. having its place of business at 47281Bayside Parkway, Fremont, CA 94538, on behalf of itself and its Subsidiaries **("Enphase")**, and

B. Salcomp Manufacturing India Private Ltd., having its place of business at Noka Telecom SEZ, SIPCOT Industrial Park, Phas III, Chennai – Bangalore Highway, Sriperumbudur, Tamil Nadu – India, 602105 on behalf of itself and its Subsidiaries **("Supplier")**.

Enphase and Supplier shall each be a "Party" and collectively, the "Parties".

Enphase desires to engage the Supplier, and the Supplier agrees to perform manufacturing services, for good and valuable consideration as further set forth in this Agreement. The Parties agree as follows:

I. DEFINITIONS

Supplier and Enphase agree that capitalized terms shall have the meanings set forth in this Agreement and Exhibit A attached hereto and incorporated herein by reference.

2. MANUFACTURING SERVICES

2.1. **Work.** Enphase hereby engages Supplier to perform the work (hereinafter **"Work"). "Work"** shall mean to procure Materials (as applicable) and to manufacture, assemble, and test products, which shall include, but not be limited to: (i) the Combiner Box 3.0; (ii) the Envoy S; and (iii) the IQ7 Microinverter) and any other products as required by Enphase (collectively, hereinafter **"Product(s)")** pursuant to detailed written Specifications for each category of Products. The **"Specifications"** for each category of Products (or revision thereof), shall include, but are not limited to bill of materials ("BOM"), designs, schematics, assembly drawings, process documentation, test specifications, packing specifications, current revision number, and Approved Vendor Lists, and shall be further detailed in Exhibit B. For the avoidance of doubt, the Work also includes the Supplier's responsibility to procure (and/or install, as applicable) the Supplier Controlled Equipment as listed in Exhibit E. For the avoidance of doubt, the Supplier shall not deviate from the Specifications, the terms of this Agreement or any Exhibit hereto, unless required by an ECO (as defined herein) issued by Enphase. Enphase may, at its discretion, add new products to the scope of the Products and the Work under this Agreement ("**NPI**"). Should Enphase

choose to exercise this right, the Parties will discuss and mutually agree on the fees and other relevant terms applicable to such NPI. For the avoidance of doubt, the Supplier shall be responsible for translating any of the documents referred to in this Agreement (including the terms of this Agreement itself), to the extent required to perform the Work to the satisfaction of Enphase.

2.2. **Engineering Changes.** Enphase may from time to time, request that Supplier incorporate engineering changes into the Product by providing Supplier with a description of the proposed engineering change as the Enphase deems necessary, for Supplier to evaluate its feasibility and cost (an "Engineering Change Order" or "ECO"). An ECO is required when the form, fit, or function of the design of the Product and/or Specifications are affected. Supplier shall provide a written response in the form of an "Engineering Change Analysis" form to Enphase, within three (3) business days of receipt of an ECO, if such changes affect the per-unit price and/or delivery of a Product. Enphase shall respond with a written acceptance in the

form of a purchase order or rejection of the Supplier "Engineering Change Analysis" form within three (3) business days of receipt thereof. Upon receiving Enphase written acceptance, Supplier will proceed with engineering changes as given in the ECO. For the avoidance of doubt, and notwithstanding anything to the contrary in this Agreement, the Supplier shall not make any changes to the processes or designs as stated in the Specifications, without Enphase's express prior written consent.

2.3. **Tooling; Non-Recurring Expenses; Software.** Enphase shall pay for or obtain and consign to Supplier any Enphase Controlled Equipment, as outlined in Exhibit D, Product-specific tooling, equipment or software and other reasonably necessary non-recurring expenses, to be set forth in Supplier's quotation. All software that Enphase provides to Supplier, or any test software that Enphase engages Supplier to develop is and shall remain the property of Enphase at all times. The Supplier shall promptly notify Enphase in case of any non-consignment of Enphase Controlled Equipment required to perform the Work.

2.4. **Enphase Controlled Equipment.** All Enphase Controlled Equipment will remain the property of Enphase; however, Supplier shall be responsible for managing and maintaining all such equipment. This Agreement shall be updated to include any additional Enphase Controlled Equipment made available by Enphase for Supplier's use in performing the Work. Notwithstanding the location of any Enphase Controlled Equipment at a Supplier or other non-Enphase facility, or the failure to list any item of Enphase Controlled Equipment in the Agreement or a purchase order, all right, title and interest in and to any Enphase Controlled Equipment will be and remain with Enphase, and Supplier will have no title or ownership interest in such Enphase Controlled Equipment. Supplier will provide Enphase with reasonable access to all Enphase Controlled Equipment located at a Supplier or other non-Enphase facility, and, notwithstanding any contrary terms that may be contained herein, will be responsible for all costs and expenses associated with repair or replacement of any Enphase Controlled Equipment or any part thereof damaged (reasonable

wear and tear excepted) by Supplier, its employees, permitted subcontractors, agents or invitees (excluding Enphase). Neither Supplier nor its assignees will file a mechanic's lien or similar lien, security interest or other encumbrance, on Enphase Controlled Equipment or otherwise use Enphase Controlled Equipment as collateral for any financing. Without limiting the foregoing, in the event any such lien or security interest is filed, Supplier or its assignee, as the case may be, will be responsible for the immediate satisfaction, payment or bonding of any such lien or security interest. Unless a later return date is requested by Enphase, within ten (10) business days following the earlier of completion of the applicable purchase order or any expiration or termination of this Agreement, Supplier will return each item of Enphase Controlled Equipment to Enphase in substantially the same condition it was in when initially provided to Supplier, reasonable wear and tear excepted.

2.5. **Cost Reduction Projects.** Supplier agrees to continuously, during the term of this Agreement, to use its commercially reasonable efforts to seek ways to reduce the cost of manufacturing Products by methods such as elimination of Materials, redefinition of Specifications, and re-design of assembly or test methods. Upon implementation of such ways that have been initiated by Enphase, Enphase will receive 100% of the demonstrated cost reduction for the balance of the quarter in which it is found. Costs shall be formally evaluated at the end of each quarter and standards shall be adjusted based upon that evaluation. Justification for all costs (including a costed BOM) shall be provided to Enphase no later than 10 business days before the end of the quarter. New standards will be effective for all shipments starting on the first day of each quarter. The Parties shall mutually agree upon non-binding cost reduction targets during their QBRs.

2.6. **Factory Access.** Supplier agrees to grant access as needed to Enphase or its representatives for factory audits at no charge to Enphase. Enphase may at its option, seat its employees or representatives

onsite within the Supplier's factory premises ("**Onsite Team**"), towards establishing an Enphase 'office desk' within the Supplier's factory premises. The Supplier shall provide all facilities, equipment and support reasonably necessary for the Enphase employees (or representatives, as applicable) to carry out their day to day business activities. The Onsite Team may access the Supplier's factory at any time during the term of this Agreement, without prior written notice to the Supplier, and the Supplier expressly consents to the same. Upon providing a written notice at least two (2) weeks in advance, Enphase may bring any of its customers, with the intention of carrying out an Audit (as defined herein), and the Supplier agrees to co-operate with Enphase (or such Enphase customers, as applicable) for conducting such an Audit. Notwithstanding anything else contained in this Agreement, and in addition to any of Enphase's rights of Audit and access, Enphase may, upon providing 24 hours' notice to the Supplier, access and/or Audit the Supplier's factory along with a technical support team.

2.7. **IT Support.** Enphase requires a client-to-site connection to the Supplier facility be available at all times to monitor production test equipment and to troubleshoot any potential problems. Supplier shall provide a static internet connection, through which Enphase can tunnel via a secure protocol such as VPN. Enphase shall, at its discretion and to the extent required in Enphase's sole opinion, provide pre-configured equipment for installation at the Supplier facilities.

2.8. Quality

(a) Prior to the commencement of the Work, Enphase will have the right (but not the obligation) to conduct a quality Audit on the factory or other premises used by the Supplier to perform the Work, in order to confirm whether such factory complies with the Specifications (as applicable). The Supplier will resolve to Enphase's satisfaction, any critical or major issues identified by Enphase during such Audit, prior to beginning production of the Products.

(b) Enphase is contracting to buy conforming Products, assemblies or components, and expects Defect- free yields from Supplier. Enphase seeks a relationship with Supplier that maximizes the probability of 100% Defect-free Product. To ensure quality, the Supplier shall dedicate a team of adequate number of Supplier Personnel with appropriate qualifications, along with a team leader who shall be fluent in English. The Supplier shall ensure that adequately qualified Supplier Personnel are available at all times to Enphase. Supplier will set up an incoming quality control ("IQC") system to inspect all Materials used in the Product based on the component Specifications on a sampling basis. Supplier will ensure only IQC "passed" Material is utilized in the Products, and will maintain records for lot traceability into the production serial range. Supplier will ensure incoming Materials have no substitution for country of origin, and will require a COC per lot. Enphase shall subject the Products delivered by the Supplier to an accelerated lifetime testing regimen as well as ongoing reliablility testing. Any failures in such testing that arise from differences in Materials, Specifications or processes specified by Enphase in this Agreement or any subsequent ECOs shall be considered a Defect

(c) Quality includes, but is not limited to, all properties of the Product that contribute to customer satisfaction, including function, workmanship, appearance, performance, reliability, timely delivery, invoicing, packing, packaging, meeting hazardous substance restrictions and support. Supplier will follow a PPAP process as outlined in Exhibit B to launch each new production TAN. Supplier will develop an operator certification program and online station validation/record keeping to ensure only "trained/certified" operators are on the production line.

(d) The primary goal of Supplier's quality planning will be prevention and early detection of Defects, as opposed to reacting to Defects as they are discovered. Upon request, Supplier will demonstrate to Enphase that its quality control plans are inherently capable of meeting Defect-free standards. The Supplier will endeavor

to obtain and maintain the ISO 9001:2015 certification during the term of this Agreement.

(e) Supplier will deliver Products conforming to applicable specifications and which are 100% Defect- free. The date code limitation for all inbound components will be the greater of: (i) the designated expiration date of the Materials; or twenty four (24) months from the date of manufacture. Supplier will develop a quality program for its production process that ensures Products are Defect-free. At Enphase's request, Supplier will supply Enphase with process control data to help Enphase ascertain the probability of receiving Defect-free Product. During any production period, the Supplier will follow the DPPM shutdown rules as detailed in Exhibit B.

(f) At its option, Enphase may inspect and test any or all Products received by Enphase, and such inspection may be by lot sampling or by testing individual units. When lot sampling is used, the applicable standard will be the industry-recognized zero defects (C = 0) plan at the appropriate confidence level. Such testing and/or inspection may take place at Enphase's facility or at Supplier's facility. If at Supplier's facility, Supplier agrees to provide reasonable support and services to and for Enphase's representative. Supplier agrees that the representations and warranties made in this Agreement with respect to Products will continue to apply regardless of whether Enphase accepts, tests or inspects any Product Unit or lot.

(g) The Supplier acknowledges that the obligations on quality provided in Sections 2.8 (a) to (f) are essential so that Enphase may achieve its goals under this Agreement. To the extent that any Materials, or portions of the Work are performed for the Supplier by any third-party supplier, the Supplier shall ensure that such third- party Suppliers are bound by obligations at least as onerous as those in this Agreement, with relation to quality and compliance to the applicable Specifications. Supplier shall notify Enphase in writing of any such third-party supplier, and Enphase reserves the right to reasonably reject Supplier's use of any third party supplier.

(h) If Defects, including Enphase's rejection and/or return of Product as permitted under this Agreement, cause a Line Down, Supplier, within 24 hours of receipt of notice thereof from Enphase will provide qualified repair personnel at Enphase's or Enphase's customer's facility to repair or sort, at Enphase 's option, such defective Product at no cost to Enphase or Enphase's customer. "Line down," as used in the preceding sentence, means the cessation or delay of manufacturing, assembly or shipment operations experienced by Enphase and/or a Enphase customer as a result of a Defect or action or inaction by Supplier.

(i) If any Product does not comply to the Specifications, in accordance with Section 2.8 (e) and is therefore rejected by Enphase, Supplier will supply Enphase with a return material authorization or replacement Product within three (3) business days of Enphase's request. Supplier further agrees to supply Enphase with an initial failure analysis within 24 hours and a containment plan within 48 hours and to provide due diligence in obtaining a full failure analysis within seven days of receipt of samples of rejected Product. Supplier agrees to provide the full failure analysis to Enphase in the format prescribed by Enphase.

(j) If any replacement Products delivered pursuant to Section 2.8 (e) have Defects or otherwise fail to conform to the requirements of this Agreement, Enphase may, at its option, cancel the related purchase order in whole or in part, without penalty or liability whatsoever to Enphase and/or Enphase may avail itself of any remedy set forth herein or pursuant to applicable Law.

(k) Upon request, Supplier will make available to Enphase all Product test data relating to qualification as well as production yield to evidence conformance to specifications and quality control. Supplier will facilitate product sampling for ongoing reliability testing ("ORT") for Enphase. Sampling program is detailed in Exhibit
B. Supplier will provide resources at their facility to perform 1st level failure analysis for any failures that occur in ORT. Supplier will provide a weekly ORT report which tracks the status of the units submitted to the chambers, and the failure status by week.

(l) The Parties will meet on a weekly basis, to conduct an ongoing review of the steps required to ensure Product quality as envisaged by this Agreement. Supplier will track yield at each process step/test station, and perform pareto analysis, root cause analysis and corrective action per week to address the top items causing first pass yield loss (including NTF) per week. Data will be presented in a format as prescribed by Enphase to demonstrate the yield results, paretos, and action taken to address issues. This data will be reviewed in a joint weekly meeting between the Parties.

(m) For the purpose of ensuring quality and effective compliance to each Party's obligations under this Agreement, a quarterly business review ("**QBR**") shall be held every three (3) months, face-to-face in a mutually agreed location, generally at one of Supplier's locations (i.e. a factory currently performing Work for Enphase). It may on occasion be held at an Enphase office. Conference call participation should be limited. To maintain focus and ensure direct and open communication, only key participants shall be present and shall include senior management representation from both Parties. The purpose of the QBR includes, but is not limited to reviewing Supplier performance, business trends, quality performance, improvement initiatives and strategic direction. The items to be reviewed shall, at either Party's request, include items such as cost savings initiatives, Product pricing, Special Inventory and Lead Times. In general, these meetings shall assess the future outlook and review the previous period.

3. FORECASTS; ORDERS; FEES; PAYMENT

3.1. Forecast. Enphase shall provide Supplier, on a monthly basis, a rolling twelve (12) month forecast indicating Enphase's monthly Product requirements. The first ninety (90) days of the forecast shall be in weekly time buckets and will constitute Enphase's written purchase order for all Work to be completed within the first ninety (90) day period. Such purchase orders will be issued in accordance with Section 3.2 below. The remainder of the forecast is non-binding.

3.2. Purchase Orders; Precedence. Enphase may use its standard purchase order form for any notice provided for hereunder; provided that all purchase orders must reference this Agreement and the Specifications (if applicable). The Parties agree that the terms and conditions contained in this Agreement shall prevail over any terms and conditions of any such purchase order, acknowledgment form or other instrument, unless specifically agreed in writing by both Parties.

3.3. Purchase Order Acceptance. Purchase orders shall normally be deemed accepted by Supplier unless the Supplier notifies Enphase of Supplier's objections to any purchase order within three
(3) days of receipt of such purchase order.

3.4. Fees; Changes; Taxes.

(a) The fees will be agreed by the Parties and will be indicated on the purchase orders issued by Enphase and accepted by Supplier. The initial fees shall be as set forth on the Fee List attached hereto and incorporated herein as Exhibit C (the **"Fee List").** If a Fee

List is not attached or completed, then the initial fees shall be as set forth in purchase orders issued by Enphase and accepted by Supplier in accordance with the terms of this Agreement.

(b) All costs and fees will be evaluated quarterly during the]QBR. The Parties shall agree to such costs, including but not limited to any BOM costs for a subsequent quarter during the aforementioned review. Any changes and timing of changes shall be agreed by the Parties, such agreement not to be unreasonably withheld or delayed. By way of example only, the fees may be increased if the market price of fuels, Materials, equipment, labor and other production costs, increase beyond normal variations in pricing or currency exchange rates as demonstrated by Supplier, to the satisfaction of Enphase.

(c) All fees are exclusive of federal, state and local excise, sales, use, VAT, and similar transfer taxes, and any duties, and the Supplier shall be responsible for all such items.

(d) Undisputed invoices will be paid by the Customer within [*] days from the date of receipt by Enphase of the shipment made by the Supplier of Products under a relevant purchase order.

4. MATERIALS PROCUREMENT; ENPHASE'S RESPONSIBILITY FOR MATERIALS

4.1. **Authorization to Procure Materials, Inventory and Special Inventory.** Enphase's purchase orders and forecast will constitute authorization for Supplier to procure: (a) Inventory to manufacture the Products covered by such purchase orders based on the Lead Time and (b) certain Special Inventory based on Enphase's purchase orders and forecast as follows: Long Lead-Time Materials as required based on the Lead Time when such purchase orders are placed and Minimum Order Inventory as required by the third party supplier. Supplier will only purchase Economic Order Inventory with the prior approval of Enphase. Supplier will provide to Enphase each quarter a list of all Long Lead Time Materials (greater than 8 weeks) and the total quantity on order for each long lead time part.

4.2. **Preferred Supplier.** Enphase shall provide to Supplier and maintain an Approved Vendor List (or AVL). Supplier shall purchase from vendors on a current AVL the Materials required to manufacture the Product. Enphase shall give Supplier an opportunity to be included on AVL's for Materials that Supplier can supply, and if Supplier is competitive with other approved vendors as determined by Enphase, Supplier shall be included on such AVL's. If Enphase determines that the Supplier is on an AVL and its prices and quality are competitive with other vendors, Enphase will raise no objection to Supplier sourcing Materials from itself. Notwithstanding anything else contained in the Agreement, unless otherwise agreed by Enphase in writing, the Supplier shall be bound to: (i) follow any Enphase approved splits to an AVL; and (ii) to the extent applicable and instructed by Enphase, purchase Materials only from those vendors listed in a current AVL. For the purposes of this Section 4.2 only, the term "Supplier" includes any companies affiliated with Supplier including the Supplier's subsidiaries. For Supplier sourced material, Supplier must either: (i) provide a reasonable annual cost reduction based upon comparison to similar commodities; or (ii) provide proof of competitive bidding on the Supplier sourced parts on an annual basis.

4.3. **Enphase Responsibility for Inventory and Special Inventory.** Enphase is responsible under the conditions provided in this Agreement for all Materials, Inventory and Special Inventory purchased by Supplier under this Section 4, to the extent that such Materials, Inventory and Special Inventory have been purchased: (i) at Enphase's request; or (ii) solely for performing the Work. Notwithstanding the foregoing, the Supplier shall implement industry standard practices, for the storage and safety of such Materials, Inventory or Special Inventory. The Supplier shall maintain the minimum quantities of Materials, Inventory and Special Inventory as outlined in Exhibit F to this Agreement, in order to ensure timely fulfillment of purchase orders issued by Enphase.

4.4. **Materials Warranties.** Supplier shall use its best efforts to obtain and pass through to Enphase the following warranties with regard to the Materials (other than the Enphase Controlled Materials) for a period of at least [*] years: i) conformance of the Materials with the vendor's specifications and with the Specifications; (ii) that the Materials will be free from defects in workmanship; (iii) that the Materials will comply with Environmental Regulations and all applicable Laws; and (iv) that the Materials will not infringe the intellectual property rights of third-parties. Supplier shall promptly inform Enphase if it is not able to obtain and pass through the foregoing warranties with regard to any Materials.

5. SHIPMENTS, SCHEDULE CHANGE, CANCELLATION, STORAGE

5.1. **Shipments.** All Products delivered pursuant to the terms of this Agreement shall be suitably packed for shipment in accordance with the Specifications and marked for shipment to Enphase's destination specified in the applicable purchase order. Shipments will be made DDP (lncoterms 2000) by the Supplier and will be received by Enphase at locations specified by Enphase in the purchase order, at which time risk of loss and title will pass to Enphase. The Supplier and Enphase shall mutually agree on the cost of such shipments during the QBR. The costs for shipments as a result of any new Products or additional Work requested by Enphase, shall be mutually agreed to between the Parties, as and when applicable.

5.2. **Quantity Increases and Shipment Schedule Changes.**

(a) Supplier will use reasonable commercial efforts to meet any quantity increases as requested by Enphase at no additional cost to Enphase apart from the applicable fees, provided that such quantity increases are subject to availability of Materials.

(b) For purposes of calculating the amount of Inventory and Special Inventory subject to subsection (b), the "Lead Time" shall be calculated as the Lead Time at the time of procurement of the Inventory and Special Inventory.

5.3. **Mitigation of Inventory and Special Inventory.** Prior to invoicing Enphase for the amounts due pursuant to Sections 5.1 or 5.2, Supplier will use its best efforts for a period of thirty (30) days, to return unused Inventory and Special Inventory and to cancel pending orders for such items, and to otherwise mitigate the amounts payable by Enphase. Enphase shall pay amounts due under this Section 5 within sixty
(60) of receipt of an invoice. Supplier will ship the Inventory and Special Inventory paid for by Enphase under this Section 5.3 to Enphase promptly upon said payment by Enphase. In the event Enphase does not pay within sixty (60) days from the date of expiry of the

aforementioned payment term, Supplier will be entitled to dispose of such Inventory and Special Inventory in a commercially reasonable manner and credit to Enphase any monies received from third-parties. The Supplier will make available to Enphase on a quarterly basis, a report containing details of any excess or obsolete Inventory held by the Supplier. The Parties will mutually agree on a course of action to deal with such Inventory.

5.4. Delivery performance. Time is of the essence in Supplier's performance under this Agreement. On time delivery shall be measured and reported to Enphase on a monthly basis. Orders shall be considered on time if they are shipped from one week earlier than the scheduled shipment date up to one day after the scheduled shipment date. If Supplier cannot meet the on-time delivery requirement for any order due to Supplier's failure to make a timely shipment, then Supplier will ship that Order at Supplier's' own expense via air transportation or other expedient means acceptable to Enphase, at the earliest, to minimize the delay in delivery. Notwithstanding anything else contained in this Agreement, if a shipment of Products is delayed by more than thirty (30) days Enphase shall have the right to terminate this Agreement with no further liability to the Supplier except for payments to be made for shipments already delivered.

6. PRODUCT ACCEPTANCE AND EXPRESS LIMITED WARRANTY

6.1. Product Acceptance. The Products delivered by Supplier will be accepted upon delivery provided that they meet the criteria, in accordance with section 5.1 of this Agreement. If Products do not comply with the terms of the PO or the express limited warranty set forth in Section 6.2 below, Enphase has the right to reject such Products during said period. Products not rejected during said period will be deemed accepted. Enphase may return defective Products, freight collect, after obtaining a return material

authorization number from Supplier to be displayed on the shipping container and completing a failure report. Rejected Products will be promptly repaired or replaced, at Enphase's option, and returned freight pre-paid, at the Supplier's expense. In the event Enphase chooses not to accept a repaired or replacement Product, then Supplier will refund the price paid by Enphase for such Product, net fifteen (15) days from Enphase's written request for refund.

6.2. Express Warranty. This Section 6.2 sets forth the Supplier's Product warranty and Enphase's remedies with respect to a breach by Supplier of such Product warranty.

(a) Supplier warrants that the Products will have been manufactured in accordance with the applicable Specifications and will be free from defects in materials and workmanship for a period of [*] from the date of delivery of the Product. In addition, Supplier warrants that (A) Production Materials shall be used in compliance with Environmental Regulations, (B) Supplier will not manufacture Products using Materials from vendors that are not on the Approved Vendor List, unless otherwise agreed in writing by Enphase.

(b) Upon any failure of a Product to comply with this express limited warranty, Supplier will, at Enphase's option, either refund the amount paid for such Products by Enphase, or promptly repair or replace such unit and return it to Enphase freight prepaid.

6.3. General Warranties. As on the Effective Date of this Agreement, each Party represents and warrants that: (a) it is a corporation duly incorporated, validly existing and in good standing under the laws of the state or country in which it was incorporated; (b) it has all necessary corporate power and authority to enter into this Agreement and that the execution, delivery and the consummation of the transactions contemplated thereby have each been authorized by all necessary corporate action and do not violate any judgment, order, or decree; (c) the execution, delivery, performance and consummation of the transactions contemplated by this Agreement do not and will not constitute a material default under any contract by which it or any of its material assets are bound. The Supplier further represents and warrants that: (i) it will comply with its obligations under Section 10.9 of this Agreement; (ii) all information provided by the Supplier in any proposal, offer or other document prior to execution of this Agreement in relation to the subject matter of this Agreement, to the best of Supplier's knowledge, is true, accurate and complete; (iii) no claim, litigation, proceeding, arbitration, investigation, or material controversy is pending, has been threatened, or is contemplated which would have a material adverse effect on the Supplier's ability to enter into the Agreement or perform the Work and/or manufacture, test or assemble the Products or fulfil any or all its obligations under this Agreement; (iv) it shall perform the Work with promptness, diligence and in a workmanlike and professional manner, in accordance with the terms of the Agreement and with the practices and professional standards used in well-managed operations performing services similar to the Work; (iv) it has the required personnel who are duly qualified, and are suitably trained, educated, experienced, and skilled to perform the Work and shall only deploy such trained, experienced and skilled personnel to provide the Work; (v) that it has obtained and will maintain for the term of this Agreement: (a) ISO 9001:2015 certifaction, (b) ISO 14001:2015 certification, and (c) ISO 45001:2018 certification, or the latest industry standard equivalent of these certifications, as applicable; and (vi) it is in compliance with, and will continue to be in compliance with all applicable Laws.

7. INTELLECTUAL PROPERTY LICENSES

7.1. Licenses. Enphase hereby grants Supplier a non-exclusive, limited, revocable, non- transferable, non-sublicensable right and license (unless permitted by Enphase) during the term of this

Agreement to use Enphase's patents, trade secrets and other intellectual property solely as necessary to perform Supplier's obligations under this Agreement. For the avoidance of doubt, any such intellectual property will be considered the Confidential Information of Enphase. If and to the extent the Products contains Supplier's intellectual property, the Supplier grants to Enphase an unrestricted, perpetual, irrevocable, worldwide, sub-licensable, royalty-free license to such Supplier intellectual property to use, copy, modify, revise, distribute, publicly display, publicly perform, import, manufacture, have made, sell, offer to sell (whether directly or through channels of distribution), to the extent they are needed for Enphase to exercise its rights in the Products. Any such license shall include

Enphase's right to grant an unrestricted, royalty-free license to its Subsidiaries or other affiliates for the purposes stated herein.

7.2. No Other Licenses. Except as otherwise specifically provided in this Agreement, each Party acknowledges and agrees that no licenses or rights under any of the intellectual property rights of the other Party are given or intended to be given to such other Party.

8. TERM AND TERMINATION

8.1. Term. The term of this Agreement shall commence on the Effective Date and shall continue until two (2) years from the Effective Date unless terminated earlier as provided in Section 8.2 (Termination) or 10.8 (Force Majeure). After the expiration of the initial term hereunder (unless this Agreement has been terminated), this Agreement shall be automatically renewed for separate but successive one-year terms unless either Party provides written notice to the other Party that it does not intend to renew this Agreement ninety (90) days or more prior to the end of any term.

8.2. Termination. This Agreement may be terminated: (a) by Enphase for convenience upon thirty (30) days written notice to the Supplier; (b) by either Party if the other Party defaults in any payment to the terminating Party and such default continues without a cure for a period of sixty (60) days after the delivery of written notice thereof by the terminating Party to the other Party; (c) by a Party if the other Party defaults in the performance of any other material term or condition of this Agreement and such default continues unremedied for a period of thirty (30) days after the delivery of written notice thereof by the terminating Party to the other Party (d) pursuant to Section 10.8 (Force Majeure); or (e) by a Party if the other Party becomes insolvent, unable to pay debts when due, or the subject of bankruptcy proceedings not terminated within thirty (30) days of any filing; or makes a general assignment for the benefit of creditors; or if a receiver is appointed for substantially all of its property.

8.3. Effect of Expiration or Termination. Expiration or termination of this Agreement under any of the foregoing provisions: (a) shall not affect the undisputed amounts due under this Agreement by either Party that exist as of the date of expiration or termination, and (b) as of such date the provisions of Sections 5.3, and 5.4 shall apply with respect to payment and shipment to Enphase of finished Products, Inventory, and Special Inventory in existence as of such date, and (c) shall not affect Supplier's express limited warranty in Section 6.2 above. Upon termination of this Agreement in its entirety, for any reason, Supplier agrees to: (i) return to Enphase all copies of any Confidential Information received from Enphase; and (ii) return to Enphase, or Enphase's designee, all Enphase Controlled Equipment used to perform the Work; Termination of this Agreement, settling of accounts in the manner set forth in the foregoing sentence shall be the exclusive remedy of the Parties for breach of this Agreement, except for breaches of Section 6, 9.1, 10.1 or a Party's indemnification obligations under this Agreement. Sections 1, 5.4, 6.2, 6.3, 7, 8, 9, and 10 shall be the only terms that shall survive any termination or expiration of this Agreement.

9. INDEMNIFICATION; LIABILITY LIMITATION

9.1. Indemnification by Supplier. Supplier agrees to defend, indemnify and hold harmless, Enphase and all directors, officers, employees, and agents (each, **an "Enphase lndemnitee")** from and against all claims, actions, losses, expenses, damages or other liabilities, including reasonable attorneys' fees (collectively, **"Damages")** incurred by or assessed against any of the foregoing:

(a) any actual or threatened injury or damage to any person or property caused, or alleged to be caused, by a Product sold by Supplier to Enphase hereunder, but solely to the extent such injury or damage has been caused by the breach by Supplier of its express limited warranties related to Supplier's workmanship and manufacture in accordance with the Specifications only as further set forth in Section 6.2;

(b) any infringement of the intellectual property rights of any third-party but solely to the extent that such infringement is caused by a process that Supplier uses to manufacture, assemble and/or test the Products; provided that, Supplier shall not have any obligation to indemnify Enphase if such claim would not have arisen but for Supplier's manufacture, assembly or test of the Product in accordance with the Specifications; or

(c) noncompliance with any Environmental Regulations but solely to the extent that such non- compliance is caused by a process or Production Materials that Supplier uses to manufacture the Products.

9.2. Sale of Products Enjoined. Should the use of any Products be enjoined for a cause stated in Section 9.l (b) or 9.1 (c) above, or in the event the Supplier desires to minimize its liabilities under this Section 9, in addition to its indemnification obligations set forth in this Section 9, the Supplier shall either:
(a) substitute a fully equivalent Product or process (as applicable) not subject to such injunction, modify such Product or process (as applicable) so that it no longer is subject to such injunction; or (b) obtain the right to continue using the enjoined process or Product (as applicable). In the event that any of the foregoing remedies cannot be effected on commercially reasonable terms, then, all accepted purchase orders and the current forecast will be considered cancelled and Enphase shall have no obligation to purchase all Products, Inventory and Special Inventory as provided in Sections 5.3 hereof. Any changes to any Products or process must be made in accordance with Section 2.2 above.

9.3. No Other Liability. EXCEPT WITH REGARD TO THE SUPPLIER'S INDEMNIFICATION OBLIGATIONS UNDER THIS AGREEMENT, OR BREACH OF SECTION
10.1 BELOW, IN NO EVENT SHALL EITHER PARTY BE LIABLE TO THE OTHER FOR ANY OR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL OR PUNITIVE DAMAGES OF ANY KIND OR NATURE ARISING OUT OF THIS AGREEMENT OR THE SALE OF PRODUCTS, WHETHER SUCH LIABILITY IS ASSERTED ON THE BASIS OF CONTRACT, TORT (INCLUDING THE POSSIBILITY OF NEGLIGENCE OR STRICT LIABILITY), OR OTHERWISE, EVEN IF THE PARTY HAS BEEN WARNED OF THE POSSIBILITY OF ANY SUCH LOSS OR DAMAGE, AND EVEN IF ANY OF THE LIMITED REMEDIES IN THIS AGREEMENT FAIL OF THEIR ESSENTIAL PURPOSE.

10. MISCELLANEOUS

10.1. Confidentiality.

(a) Each Party shall not use any and all Confidential Information of the disclosing Party for any purposes or activities other than those specifically authorized in this Agreement. Except as otherwise specifically permitted herein or pursuant to written permission of the Party to this Agreement owning the Confidential Information, no Party shall disclose or facilitate disclosure of Confidential Information of the

disclosing Party to anyone without the prior written consent of the disclosing Party, except to its employees, consultants, parent company, and subsidiaries of its parent company who need to know such information for carrying out the activities contemplated by this Agreement and who have agreed in writing to confidentiality terms that are no less restrictive than the requirements of this Section. Notwithstanding the foregoing, the receiving Party may disclose Confidential Information of the disclosing Party pursuant to a subpoena or other court process only (i) after having given the disclosing Party prompt notice of the receiving Party's receipt of such subpoena or other process and (ii) after the receiving Party has given the disclosing Party a reasonable opportunity to oppose such subpoena or other process or to obtain a protective order. Confidential Information of the disclosing Party in the custody or control of the receiving Party shall be promptly returned or destroyed upon the earlier of(i) the disclosing Party's written request or (ii) termination of this Agreement. Confidential Information disclosed pursuant to this Agreement shall be maintained confidential for a period of [*] years after the termination of this Agreement. The existence and terms of this Agreement shall be confidential in perpetuity.

(b) Notwithstanding anything contained in this Section 10.1, a receiving Party may disclose the existence and terms of this Agreement if such information is required by Law to be disclosed under applicable Law, including without limitation pursuant to the rules and regulations promulgated by the United States Securities and Exchange Commission, provided that the disclosing party shall request the reduction of confidential terms in any such disclosure.

10.2. Use of Name is Prohibited. The existence and terms of this Agreement are Confidential Information and protected pursuant to Section 10.1 above. Supplier may not use Enphase's name or identity or any other Confidential Information in any advertising, promotion or other public announcement without the express prior written consent of Enphase.

10.3. Entire Agreement; Severability. This Agreement constitutes the entire agreement between the Parties with respect to the transactions contemplated hereby and supersedes all prior agreements and understandings between the Parties relating to such transactions. If the scope of any of the provisions of this Agreement is too broad in any respect whatsoever to permit enforcement to its full extent, then such provisions shall be enforced to the maximum extent permitted by Law, and the Parties hereto consent and agree that such scope may be judicially modified accordingly and that the whole of such provisions of this Agreement shall not thereby fail, but that the scope of such provisions shall be curtailed only to the extent necessary to conform to Law.

10.4. **Amendments; Waiver.** This Agreement may be amended only by written consent of both Parties. The failure by either Party to enforce any provision of this Agreement will not constitute a waiver of future enforcement of that or any other provision. Neither Party will be deemed to have waived any rights or remedies hereunder unless such waiver is in writing and signed by a duly authorized representative of the Party against which such waiver is asserted.

10.5. **Independent Contractor.** Neither Party shall, for any purpose, be deemed to be an agent of the other Party and the relationship between the Parties shall only be that of independent contractors. Neither Party shall have any right or authority to assume or create any obligations or to make any representations or warranties on behalf of any other Party, whether express or implied, or to bind the other Party in any respect whatsoever. For the avoidance of doubt, any personnel deployed by the Supplier for performing the Work ("Supplier Personnel") shall continue to be employees of the Supplier at all times, and shall not, for any purpose, be considered employees of the and shall not be entitled to any employee benefits from the Supplier including, but not limited to, holiday, vacation, or sick pay, social security, unemployment or disability insurance,

employees' compensation insurance, health and welfare benefits, profit sharing, or any employee stock option or stock purchase plans. Enphase shall not be liable to pay any amounts of any nature whatsoever to such resources of the Supplier. The Supplier shall indemnify Enphase in the event any Supplier Personnel make claims against Enphase in relation to any of the foregoing Enphase employee benefits or if any Supplier Personnel are later reclassified by any court of competent jurisdiction to be common law employees of Enphase.

10.6. **Expenses.** Each Party shall pay their own expenses in connection with the negotiation of this Agreement. All fees and expenses incurred in connection with the resolution of Disputes shall be allocated as further provided in Section 10.17 below.

10.7. **Insurance.** Supplier shall procure and/or maintain at its own expense the following insurance and willusecommercially reasonable effortstodosowithin sixty (60) days of the Effective Date: (i) commercial general liability insurance (including coverage for bodily injury, personal injury, property damage, contractual liability, products and completed operations) in an amount not less than [*] per occurrence; (ii) umbrella excess liability insurance in an amount not less than [*]; and (iii) an errors and omissions insurance policy which covers Supplier's obligations hereunder in an amount not less than [*]. Such insurance shall be written by an insurance company with a Best's rating of at least A-VIII who is licensed to do business in all states of the United States. Supplier shall furnish certificates of insurance and such other appropriate documentation (including evidence of renewal of insurance) evidencing all insurance coverage's set forth in this Section 10.6. Such certificates of insurance and other documentation shall name Enphase and its officers, directors and employees as additional insured. Such certificates of insurance and other documentation shall contain a broad form naming Enphase and its officers, directors and employees as an additional insured. Supplier will provide Enphase with at least thirty (30) days prior written notice of any cancellation or material alteration of the insurance coverage set forth in this Section 10.6. Failure by Enphase to receive or request the aforementioned

certificates of insurance and other documentation shall not represent a waiver of the requirements for insurance coverage setforth in this Section 10.7

10.8. **Force Majeure.** In the event that either Party is prevented from performing or is unable to perform any of its obligations under this Agreement (other than a payment obligation) due to any act of God, acts or decrees of governmental or military bodies, fire, casualty, flood, earthquake, war, strike, lockout, epidemic, destruction of production facilities, riot, insurrection, Materials unavailability, or any other cause beyond the reasonable control of the Party invoking this section (collectively, a **"Force Majeure"),** and if such Party shall have used its commercially reasonable efforts to mitigate its effects, such Party shall give prompt written notice to the other Party, its performance shall be excused , and the time for the performance shall be extended for the period of delay or inability to perform due to such occurrences. Regardless of the excuse of Force Majeure, if such Party is not able to perform within ninety (90) days after such event, the other Party may terminate the Agreement.

10.9. **Disaster Recovery and Business Continuity.**

The Supplier agrees that it will throughout the duration of this Agreement implement, maintain and keep under regular review a business continuity plan for the Work it performs for Enphase, so far as is reasonably practicable, adherence to which will enable it to continue to operate in accordance with the Supplier's obligations under this Agreement and in accordance with any regulatory requirements. The aforementioned business continuity plan shall be presented by the Supplier to Enphase, for Enphase's approval at the beginning of each year during the term of this Agreement, starting with the Effective Date. The Supplier shall amend the business continuity plan as reasonably requested by Enphase, so as to secure Enphase's approval on such plan. For the avoidance of doubt, the Supplier will not have satisfied its obligations under this Section 10.9, if it has

not secured Enphase's written approval on a business continuity plan.

10.10. **Anti-Corruption and Anti Bribery.**

(a) Vendor and each of its shareholders, beneficial owners, affiliates, officers, directors, employees and agents involved in providing services under this Agreement, will comply with the U.S. Foreign Corrupt Practices Act, the UK Bribery Act and the anti-corruption laws of any other applicable jurisdiction. In carrying out its responsibilities under this Agreement, neither Vendor nor any of its shareholders, beneficial owners, affiliates, officers, directors, employees or agents will offer, promise or give anything of value, directly or indirectly, to (i) any Government Official in order to influence official action or otherwise obtain an improper advantage, (ii) any other person with the knowledge that all or any portion of the money or thing of value will be offered or given to a Government Official in order to influence official action or otherwise obtain an improper advantage, or (iii) any other person in order to induce them to perform their work duties disloyally or otherwise improperly. For the purposes of this Section 10.10, a person shall be deemed to have "knowledge" with respect to conduct, circumstances or results if such person is aware of

(1) the existence of or (2) a high probability of the existence of such conduct, circumstances or results.

(i) For the purposes of this Agreement:

a. “Government Official” means any public or elected official or officer, employee (regardless of rank), or person acting on behalf of a national, provincial, or local government, including a department, agency, instrumentality, state-owned or state–controlled company, public international organization (such as the United Nations or World Bank), or any other Government Entity, or any political party, party official or any candidate for political office. Officers, employees (regardless of rank), or persons acting on behalf of an entity that is financed in large measure through public appropriations, is widely perceived to be performing government functions, or has its key officers and directors appointed by a government should also be considered Government Officials.

b. "Government Entity" means a national government, political subdivision thereof, or local jurisdiction therein; an instrumentality, board, commission, court or agency, whether civilian or military, or any of the above, however constituted; a government-owned or government-controlled association, organization, business or enterprise, including any state-owned enterprise, such as any state-owned broadcaster, state-owned airlines, tourism boards, state-owned (or part-owned) banks or an entity that provides a service to its citizens (e.g., a postal office); public international organizations (including organizations whose members are countries, or territories, governments of countries or territories); and any a political party.

10.11. **Successors, Assignment.** This Agreement shall be binding upon and inure to the benefit of the Party hereto and their respective successors, assigns and legal representatives. Neither Party shall have the right to assign or otherwise transfer its rights or obligations under this Agreement except with the prior written consent of the other Party, not to be unreasonably withheld.

10.12. **Audits and Inventory count reports.** Supplier will keep complete and accurate records of all matters relating to its performance under this Agreement, including Inventory count. In particular, the Supplier shall conduct an internal audit on a quarterly basis, on the Inventory maintained by the Supplier. The Supplier shall, at Enphase’s request, provide a report detailing the findings of the aforementioned internal audit to Enphase. All financial records relating to this Agreement will be maintained according to local regulation. Supplier will retain all such records for at least five years from the date of creation or longer if required by applicable Law or by a specific term of this Agreement. Supplier agrees that Enphase may,

upon reasonable advance notice and at Enphase’s expense, audit and inspect such items in order to verify Supplier’s compliance with this Agreement, including Supplier’s documents, records, facilities and Enphase Owned Equipment (each, an “Audit”). If an Audit reveals any overcharges, Supplier will pay to Enphase, within 30 days of Supplier’s receipt of notice thereof from Enphase, (1) the amount of such overcharges, including interest thereon as provided in this section; and (2) Enphase’s reasonable cost of conducting such Audit. Interest will accrue on any overcharges at the lesser of (1) the prime rate of interest published in the Wall Street Journal, as same will be published on the day on which the Audit is completed (or, if the prime rate of interest is not published on such date, the next business Day thereafter on which the prime rate of interest is so published), plus two percent; or (2)

the highest amount allowed by Law. Such interest will accrue from the time such overcharge was paid by Enphase until Supplier repays such overcharge.

10.13. **Notices.** All notices required or permitted under this Agreement will be in writing and will be deemed received (a) when delivered personally; (b) when sent by confirmed facsimile; (c) five (5) days after having been sent by registered or certified mail, return receipt requested, postage prepaid; or (d) one (1) day after deposit with a commercial overnight carrier. All communications will be sent to the addresses set forth above or to such other address as may be designated by a Party by giving written notice to the other Party pursuant to this section.

10.14. **Even-Handed Construction.** The terms and conditions as set forth in this Agreement have been arrived at after mutual negotiation, and it is the intention of the Party that its terms and conditions not be construed against any Party merely because it was prepared by one of the Party.

10.15. **Compliance with Laws.** Supplier represents and warrants that the Products are and will be produced and delivered in accordance with all applicable Laws. Further, Supplier has implemented and maintains a comprehensive program for assuring environmental compliance in its operations according to recognized practices, such as ISO 14000 or comparable criteria. Both Parties will adhere to all applicable Laws and regulations governing such Party's conduct in connection with this Agreement, including, any laws or regulations of the U.S. Department of Commerce Bureau of Industry and Security, and will not export or re-export any technical data or products received from a Party, or the direct product of such technical data, to any proscribed country listed in the U.S. Export Administration regulations unless properly authorized by the U.S. government.

10.16. **Controlling Language.** This Agreement is in English only, which language shall be controlling in all respects. All documents exchanged under this Agreement shall be in English.

10.17. **Controlling Law.** This Agreement shall be governed and construed in all respects in accordance with the domestic Laws and regulations of the State of California, without regard to its conflicts of laws provisions. The courts in Santa Clara County, California will have jurisdiction over any disputes between the Parties, arising from this Agreement (**"Disputes**"). The Party specifically agree that the 1980 United Nations Convention on Contracts for the International Sale of Goods, as may be amended from time to time, shall not apply to this Agreement. The Party further acknowledge and confirm that the selection of the governing law is a material term of this Agreement.

10.18. **No Waiver.** No failure or delay on the part of any Party in exercising any right hereunder, irrespective of the length of time for which such failure or delay shall continue, will operate as a waiver of, or impair, any such right. No single or partial exercise of any right hereunder shall preclude any other or further exercise thereof or the exercise of any other right. No waiver of any right hereunder will be effective unless given in a signed writing.

10.19. **Counterparts.** This Agreement may be executed in counterparts.

IN WITNESS WHEREOF, the Party have caused this Agreement to be duly executed by their duly authorized representatives as of the Effective Date.

ENPHASE ENERGY INC.	**SALCOMP MANUFACTURING INDIA PRIVATE LTD.**
By:/S/ Jeff McNeil	**By:/S/ Vincent Hsiao**
Name: Jeff McNeil	Name:/S/ Vincent Hsiao
Title: Chief Operating Officer	Title: Chief Executive Officer
Date: October 1, 2019	Date:/S/ October 1, 2019

EXHIBIT A
Definitions

Approved Vendor List or AVL	shall mean the list of suppliers currently approved to provide the Materials specified in the BOM or a Product.
Confidential Information	shall mean (a) the existence and terms of this Agreement and all information concerning the unit number and fees for Products and Inventory/Special Inventory, as well as the Specifications and (b) any other information that is marked "Confidential" or the like or, if delivered verbally, confirmed in writing to be "Confidential" within 30 days of the initial disclosure. Confidential Information does not include information that (i) the receiving Party can prove it already knew at the time of receipt from the disclosing Party; or (ii) has come into the public domain without breach of confidence by the receiving Party; (iii) was received from a third-party without restrictions on its use; (iv) the receiving Party can prove it independently developed without use of or reliance on the disclosing Party's data or information; or (v) the disclosing Party agrees in writing is free of such restrictions
Cost	shall mean the cost represented on the bill of materials supporting the most current fees for Products at the time of cancellation, expiration or termination, as applicable.

California RoHS	Shall mean the California Electronic Waste Recycling Act of 2003, as amended from time to time, and related interpretive guidance and enforcement policies
China RoHS	means the People's Republic of China (**PRC**)'s *Measures for the Administration of the Control of Pollution by Electronic Information Products* (电子 信息产品污染控制管理办法) promulgated on February 28, 2006 (including any pre-market certification ("CCC mark") requirements thereunder), the PRC Ministry of Information Industry's Frequently Asked Questions regarding China RoHS, official standards including *Marking for Control of Pollution Caused by Electronic*

Information Products (SJ/T 11364-2006), *Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products* (SJ/T 11363-2006) and *Testing Methods for Hazardous Substances in Electronic Information Products* (SJ/T 11365-2006) and the PRC General Administration of Quality Supervision, Inspection and Quarantine's Circular 441 (2006), each as amended from time to time, and related interpretative guidance and enforcement policies.

Defect Shall mean the failure of a Product to comply with the warranty given in Section 6 and Includes defects of any sub-component or assembly that does not meet the Specifications for that portion.

Enphase Controlled Equipment shall mean those Equipment provided by Enphase or by third party suppliers with whom Enphase has a commercial contractual relationship or non- contractual relationship, as further detailed in Exhibit D.

Enphase Indemnitee shall have the meaning set forth in Section 9.1

Equipment shall mean those equipment and fixtures required by the Supplier to carry out the Work, in order to manufacture, assemble, and test the Products.

Damages shall have the meaning set forth in Section 9.1

Economic Order Inventory shall mean Materials purchased in quantities above the required amount for purchase orders, in order to achieve price targets for such Materials.

"Engineering Change Order" (ECO) shall mean the document that details a change in the Specifications and/or design of a Product.

Government Official shall have the meaning given to it in 10.10 (a).

Government Entity shall have the meaning given to it in 10.10 (b).

Disputes shall have the meaning set forth in Section 10.l7.

Environmental Regulations shall mean any hazardous substance content laws and regulations including, without limitation, those related to the EU Directive 2002/95/EC about the Restriction of Use of Hazardous Substances (RoHS), the Directive 2012/19/EU of the European Parliament and of the Council of 27 January 2003 on Waste Electrical and Electronic Equipment (WEEE), 2003 O.J. (L37) 24 as amended from time to time, and includes the WEEE Requirements.

Fee List shall have the meaning set forth in Section 3.4 (a).

Force Majeure shall have the meaning set forth in Section 10.8.

Inventory shall mean any Materials that are used to manufacture Products that are ordered pursuant to a purchase order from Enphase.

Lead Time(s) shall mean the Materials Procurement Lead Time plus the manufacturing cycle time required from the delivery of the Materials at the Supplier's facility to the completion of the manufacture, assembly and test processes.

Long Lead Time Materials shall mean Materials with Lead Times exceeding the period covered by the accepted purchase orders for the Products.

Laws means any U.S. or non-U.S. federal, national, supranational, state, provincial, local or similar statute, law (including common law), Environmental Regulations, regulation, treaty, constitutional provision, ordinance, code, directive, including the (RoHS Directive and the WEEE Requirements and the RoHS Requirements) notice, binding agreement, policy or rule of law, legal requirement, other government restriction or regulation promulgated or entered into by any regulatory authority of competent jurisdiction, tribunal, judicial or arbitral body, administrative agency or commission or other government authority or instrumentality.

Materials shall mean components, parts and subassemblies that comprise the

Product and that appear on the BOM for the Product.

Materials Procurement Lead time shall mean with respect to any particular item of Materials, Lead time to obtain such Materials as recorded in the purchase order.

Minimum Order Inventory shall mean Materials purchased in excess of requirements for purchase orders because of minimum lot sizes available from the third-party supplier.

Product(s) shall have the meaning set forth in Section 2.1.

Production Materials shall mean Materials that are consumed in the production processes to manufacture Products including without limitation, solder, epoxy, cleaner solvent, labels, flux, and glue.

RoHS Requirements means the RoHS Directive, China RoHS, California RoHS and/or other similar or related environmental, product composition or materials declaration Laws.

Subsidiary shall mean the corporations, partnerships, limited liability companies, joint ventures, associations and any other legal entities of which any Party (either alone or through or together with any other Subsidiary), owns, directly or indirectly, or has rights to acquire, directly or indirectly more than 50 percent of the stock or other equity interests, the holders of which are generally entitled to vote for the election of the board of directors or other governing body of such corporation or other legal entity.

Supplier Controlled Equipment shall mean those Equipment provided by the Supplier.

Special Inventory shall mean any Long Lead Time Materials and/or Minimum Order Inventory and/or Economic Order Inventory.

Specifications shall have the meaning set forth in Section 2.1.

Work shall have the meaning set forth in Section 2.1.

WEEE Requirements means any requirements, obligations, standards, duties or responsibilities pursuant to any environmental, product or packaging recycling, reuse or waste Laws and any regulations, interpretive guidance or enforcement policies relating to any of the foregoing, including the WEEE directive, California RoHS or other similar or related Laws.

EXHIBIT B
SPECIFICATIONS

The Supplier shall perform the Work to the satisfaction of Enphase, according to the Specifications listed in the relevant document, as outlined in the table below. Enphase reserves the right to update this table from time to time and shall notify the Supplier thirty (30) days in advance of such updates, and upon such notification, these Specifications will be deemed to be updated.

Products (as applicable)	**Document**	**Document Number**	Revision Number
[*]	[*]	[*]	[*]
	[*]	[*]	[*]
	[*]	[*]	[*]
	[*]	[*]	[*]

[*]

EXHIBIT C
FEES LIST

QUOTATION -- MVA Cost Elements & Material Costs;

	Package Deal -- All programs to be awarded				
MVA Cost Elements/Manufacturing Locations/Volume Scenario	***Microinverter***	***Envoy***	***Combiner Box***	***Enpower (#11)***	***Remark***
	Chennai	***Chennai***	***Chennai***	***Chennai***	
	[*]pcs/Quarter	**[*]*pcs/Quarter***	**[*]*pcs/Quarter***	**[*]Kpcs/Quarter**	
Raw Material Inbound Freight	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Finished-Good Outbound Freight	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Process Consumables	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Direct Labors	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Indirect Labors	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Depreciation	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Factory OverHead	$ [*]	$ [*]	$ [*]	$ [*]	
SGA & Profit	$ [*]	$ [*]	$ [*]	$ [*]	

Costed-BOM $ [*] $ [*] $ [*] $ [*] CBOM info release by Enphase; Overall Production Yield Loss [*] [*] [*] TBD Yeild Loss & % to be agreed;

Costed-BOM $ [*] $ [*] $ [*] $ [*] CBOM info release by Enphase; Overall Production Yield Loss [*] [*] [*] TBD Yeild Loss & % to be agreed;

Costed-BOM $ [*] $ [*] $ [*] $ [*] CBOM info release by Enphase; Overall Production Yield Loss [*] [*] [*] TBD Yeild Loss & % to be agreed;

Costed-BOM $ [*] $ [*] $ [*] $ [*] CBOM info release by Enphase; Overall Production Yield Loss [*] [*] [*] TBD Yeild Loss & % to be agreed;

Costed-BOM	$ [*	$ [*	$ [*	$ [*	CBOM info release by Enph						
Overall Production Yield L	[*]	[*]	[*]	TBD	Yeild Loss & % to be ag						

Total*Total*
Total

***MVA per Unit (US$) $****MVA per Unit (US$) $*
MVA per Unit (US$) $

Total MVA per Unit (US$) $
[*]$ [*]$ [*]$ [*]

Total Material Costs per Unit (US$) $ [*] $ [*] $ [*] $ [*]

Unit Pricing (MVA + Materials) $ [*] $ [*] $ [*] $ [*]

	The extra cost of embedded FG Outbound Freight Cost (Line#18) to ship FG to different locations				
US, Oakland California	$ [*]	$ [*]	$ [*]	$ [*]	[*]
Netherlands, Rotterdam	$ [*]	$ [*]	$ [*]	$ [*]	[*]

NOTES

[*]

EXHIBIT D
ENPHASE CONTROLLED EQUIPMENT

[*]

EXHIBIT E
SUPPLIER CONTROLLED EQUIPMENT

[*]

DOLLINGER PROPERTIES

March 17, 2020

Enphase Energy, Inc.
47281 Bayside Parkway
Fremont, CA 94538

Dear Sir or Madam:

This letter of amendment ("***Letter Agreement***") when executed shall serve as an agreement modifying that certain Lease dated April 12, 2018, by and between Dollinger Bayside Associates, a California limited partnership (the "***Landlord***") and Enphase Energy, Inc., (the "***Tenant***"), relating to the Premises at 47281 Bayside Parkway, Fremont, CA (the "Lease"). Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Lease.

IT IS AGREED THAT:

1) Effective upon full execution of this Letter Agreement, the Original Term of the Lease shall be extended for five (5) years, commencing October 1, 2020 and expiring September 30, 2025.

2) Effective October 1, 2020, the Premises shall be adjusted to include an additional 17,010 square feet known as 47341 Bayside Parkway, Fremont, CA 94538 (such additional area being the "***Expansion Premises***"), for a total of 40,446 square feet (the "Combined Premises"). Effective October 1, 2020 the "Expansion Premises" Rent schedule shall commence as shown below.

3) Effective October 1, 2020 and until September 30, 2021, the Base Rent for Expansion Premises shall be $29,768.00 per month.

4) Effective October 1, 2021 and until September 30, 2022, the Base Rent for Expansion Premises shall be $30,661.00 per month.

5) Effective October 1, 2022 and until September 30, 2023, the Base Rent for Expansion Premises shall be $31,581.00 per month.

6) Effective October 1, 2023 and until September 30, 2024, the Base Rent for Expansion Premises shall be $32,528.00 per month.

7) Effective October 1, 2024 and until September 30, 2025, the Base Rent for Expansion Premises shall be $33,504.00 per month.

8) Base Rent for the original "Premises" (as defined in the Lease) will remain per the current Lease until November 30, 2023. Effective December 1, 2023 the "Original Premises" Base Rent schedule shall adjust as shown below.

9) Effective December 1, 2023 until ~~November~~ September 30, 2024, the Base Rent for Original Premises shall be $44,763.00 per month.

10) Effective ~~September~~ October 1, 2024 until ~~November~~ September 30, 2025, the Base Rent for Original Premises shall be $46,106.00 per month.

11) Tenant shall remit an additional Security Deposit of $33,504.00, bringing the total Security Deposit amount (for the purposes of Paragraphs 1.7 and 5 of the Lease) to $72,898.68.

DOLLINGER PROPERTIES

12) Tenant shall be given an additional 68 Unreserved Parking Spaces per Lease paragraph 1.2 (b), bringing the total number of Unreserved Parking Spaces to 159.

13) Tenant Improvements. Landlord, at Landlord's sole cost and expense, shall perform the following Tenant Improvements:

(1) Provide and install new dropped ceiling in the office area (office area only) per "Exhibit A" to match original Premises
(2) Provide and install new paint throughout the space to match original Premises
(3) Provide new doors, frames, and sidelights per DPM standard
(4) Provide new carpet in office to match original Premises as closely as possible
(5) Provide modification to connect and combine the original Premises and Expansion Premises

14) **CASp.** This is notice that the Landlord has not inspected the premises. A Certified Access Specialist (CASp) can inspect the subject premises and determine whether the subject premises comply with all of the applicable construction-related accessibility standards under state law. Although state law does not require a CASp inspection of the subject premises, the commercial property owner or lessor may not prohibit the lessee or tenant from obtaining a CASp inspection of the subject premises for the occupancy or potential occupancy of the lessee or tenant, if requested by the lessee or tenant. The Parties shall mutually agree on the arrangements for the time and manner of the CASp inspection, the payment of the fee for the CASp inspection, and the cost of making any repairs necessary to correct violations of construction-related accessibility standards within the premises.

15) Tenant represents and warrants to Landlord that Tenant is not a party with whom Landlord is prohibited from doing business pursuant to the regulations of the Office of Foreign Assets Control ("OFAC") of the U.S. Department of the Treasury, including those parties named on OFAC's Specially Designated Nationals and Blocked Persons List. Tenant is currently in compliance with, and shall at all times during the Lease Term remain in compliance with, the regulations of OFAC and any other governmental requirement relating thereto. In the event of any violation of this section, Landlord shall be entitled to immediately terminate this Lease and take such other actions as are permitted or required to be taken under law or in equity. TENANT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS LANDLORD FROM AND AGAINST ANY AND ALL THIRD PARTY CLAIMS, DAMAGES, LOSSES, RISKS, LIABILITIES AND EXPENSES (INCLUDING ATTORNEYS' FEES AND COSTS) INCURRED BY LANDLORD ARISING FROM OR RELATED TO ANY BREACH OF THE FOREGOING OBLIGATIONS. These indemnity obligations shall survive the expiration or earlier termination of this Lease.

16) All other terms and conditions of said Lease, shall remain unchanged and in full force and effect.

DS

DocuSigned by:

Sincerely,

Dollinger Bayside, LLC
By Dollinger Bayside Associates, LP
Its Sole Member
By DP Ventures, LP
Its General Partner
By David Dollinger Living Trust
Its Managing Member

By: David Dollinger, Trustee

Acknowledged and Agreed To:
Enphase Energy, Inc.

DocuSigned by:
By: Badri Kothandaraman
6F14CFE2079F461...

DOLLINGER PROPERTIES

Exhibit "A"

DOLLINGER PROPERTIES

May 9, 2020

Enphase Energy, Inc.
47281 Bayside Parkway
Fremont, CA 94538

Dear Sir or Madam:

This letter of amendment ("***Letter Agreement***") when executed shall serve as an agreement modifying that certain Lease dated April 12, 2018, and modified by the Letter of Agreement dated March 17, 2020 by and between Dollinger Bayside Associates, a California limited partnership (the "***Landlord***") and Enphase Energy, Inc., (the "***Tenant***"), relating to the Premises at 47281-47341 Bayside Parkway, Fremont, CA (the "Lease"). Capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the Lease.

IT IS AGREED THAT:

1. Tenant shall take possession of the Expansion Premises early on ~~July 16, 2020~~ July 25, 2020.
2. In exchange for Landlord terminating the existing tenant lease early with UIC, Paragraph #13 of the Letter Agreement shall be deleted. Tenant shall now take the Expansion Premises "AS-IS". Tenant's tenant improvements to be paid performed and paid for solely by Tenant as shown on Exhibit "B" are approved by Landlord. However Landlord, at Landlord's sole cost, shall upgrade the ADA ramp to current code in front of the main entrance to the Expansion Premises and provide a concrete pathway to the exterior patio from the two rear side doors only all shown on Exhibit "A".
3. This amendment is subject to existing Tenant UIC agreeing to terminate their lease early.
4. All other terms and conditions of said Lease, shall remain unchanged and in full force and effect.

Sincerely,

Dollinger Bayside, LLC
By Dollinger Bayside Associates, LP
Its Sole Member
By DP Ventures, LP
Its General Partner
By David Dollinger Living Trust
Its Managing Member

By: _____
David Dollinger, Trustee

Acknowledged and Agreed To:
Enphase Energy, Inc.

By: Karminder Raj Singh

[*] = Certain confidential information contained in this document, marked by brackets, has been omitted because it is both not material and would likely cause competitive harm to the Company if publicly disclosed.

Execution Version

EXCHANGE AGREEMENT

This EXCHANGE AGREEMENT (this "**Agreement**") is made and entered into as of December 14, 2020 by and between Enphase Energy, Inc., a Delaware corporation (the "**Company**"), and Linden Advisors LP (the "**Undersigned**"), for itself and on behalf of the beneficial owners listed on Exhibit A hereto ("**Accounts**") for whom the Undersigned holds contractual and investment authority (each Account, hereunder, a "**Noteholder**" and, collectively, the "**Noteholders**").

RECITALS

WHEREAS, the Company previously issued $132.0 million aggregate principal amount of its 1.00% Convertible Senior Notes due 2024 (the "**Notes**");

WHEREAS, each Noteholder is the beneficial and record holder of the aggregate principal amount of the Notes (the "**Exchanged Notes**") set forth in Exhibit A, which Exchanged Notes were issued pursuant to that certain Indenture, dated as of June 5, 2019 (the "**Indenture**"), between the Company and U.S. Bank National Association, as trustee (the "**Trustee**");

WHEREAS, the Company and the Undersigned (on behalf of the Noteholders) have agreed to enter into this Agreement pursuant to which: each Noteholder will exchange (the "**Exchange**") its Exchanged Notes for (a) such number of shares of the Company's common stock, $0.00001 par value per share (the "**Common Stock**"), and (b) cash in U.S. dollars (the "**Exchange Payment**") as set forth in Exhibit A, which amounts will be calculated based on a one-day VWAP of the Common Stock on the date following the date of this Agreement,; and

WHEREAS, the transactions under this Agreement have been privately and separately negotiated and agreed to between the Company and the Undersigned (on behalf of the Noteholders); and the Exchange is being made in reliance upon the exemption from registration provided by Section 4(a)(2) of the Securities Act of 1933, as amended (the "**Securities Act**").

AGREEMENT

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

1. Exchange and Purchase. Subject to the terms and conditions set forth in this Agreement, at the Closing (as defined herein), the Noteholder will assign, transfer and deliver to the

Company all of its right, title and interest in and to all of the Exchanged Notes set forth in Exhibit A free and clear of any mortgage, lien, pledge, charge, security interest, encumbrance, option, or other adverse claim thereto (a "**Lien**"), against issuance and delivery, or payment, to the Noteholder, which shall be in full satisfaction of all obligations of the Company under the Exchanged Notes, of (i) the number of shares of Common Stock (the "**Exchanged Shares**"), and (ii) the Exchange Payment, each as to be set forth in an updated Exhibit A as mutually agreed between the Company and the Undersigned by the end of the business day immediately following the date of this Agreement. The Exchange Payment will consist of $1,000 in cash for each $1,000 principal amount of Exchanged Notes, plus an amount equal to the value of any fractional shares as described below. The number of Exchanged Shares will be equal to (a) the number of shares of Common Stock deliverable to the Noteholders if the Exchanged Notes were converted based on a conversion ratio of 48.7781 per $1,000 principal amount of Exchanged Notes, minus (b) the number of shares of Common Stock derived by dividing the principal amount of the Exchanged Notes by the VWAP (defined below). Any fractional shares resulting from the calculation in the previous sentence will be paid in cash, based on such VWAP, and will be added to the Exchange Payment. For purposes of this paragraph, the "VWAP"

will equal the Composite VWAP of the Common Stock on Bloomberg (ENPH US <equity> AQR) from 9:30AM to 4:00PM EST on the day following the date of this Agreement.

2. Closing and Closing Deliveries. The closing of the Exchange (the "**Closing**") shall take place remotely at 10:00 a.m., New York time, on December 16, 2020 following the satisfaction or, to the extent permitted by applicable law, waiver of the conditions set forth in Section 6 below (other than those conditions that by their terms are to be satisfied at the Closing, but subject to the satisfaction or, to the extent permitted by applicable law, waiver of those conditions), unless another date, time or place is agreed to in writing by the parties hereto (the "**Closing Date**").

3. At the Closing:

(a) the Company shall:

(i) deliver the Exchange Shares, bearing an unrestricted CUSIP number, to the Noteholders' custodians as identified in Exhibit B hereto, through the facilities of DTC free and clear of any Liens; and

(ii) pay the Cash Payment to the Noteholders, by wire transfer of immediately available funds to such account or accounts as designated in Exhibit B.

(b) the Noteholders shall:

(i) effect by book entry, in accordance with the applicable procedures of The Depository Trust Company, the delivery to the Company (or its trustee or designee) of all of the Exchanged Notes and all other documents and instruments reasonably requested by the Company or the Trustee to effect the transfer of the Exchanged Notes to the Company and confirm in the Company all right, title and interest in and to the Exchanged Notes free and clear of any Liens.

4. Representations and Warranties of the Noteholder. The Undersigned, for itself and on behalf of each Noteholder, represents and warrants to the Company as follows:

(a) Title to Exchanged Notes and Holding Period. Each Noteholder is the sole legal and beneficial owner of the Exchanged Notes set forth on Exhibit A and for purposes of Rule 144(d) under the Securities Act, such Noteholder has either (i) held the Exchanged Notes for at least one (1) year, or will satisfy such holding period requirement as of the Closing, or (ii) acquired the Exchanged Notes from a person who was not and has not been in the ninety (90) days prior to the sale, an Affiliate of the Company (as defined herein) and, as a result of tacking the holding period of prior non-Affiliate purchasers, has held the Exchanged Notes for at least one (1) year, or will satisfy such holding period requirement at Closing. Each Noteholder has good, valid and marketable title to the Exchanged Notes set forth on Exhibit A free and clear of all Liens, and neither such Noteholder nor any Affiliate of such Noteholder owns or holds beneficially or of record any Notes (or any rights or interests of any nature whatsoever in or with respect to any Notes) other than Exchanged Notes set forth on Exhibit A. At the Closing, each Noteholder will convey to the Company good and marketable title to the Exchanged Notes free and clear of all Liens. Except for this Agreement, none of the Noteholders is party to or bound by any contract, option or other arrangement or understanding with respect to the purchase, sale, delivery, transfer, gift, pledge, hypothecation, encumbrance, assignment or other disposition or acquisition of (including by operation of law) any Notes (or any rights or interests of any nature whatsoever in or with respect to any Notes) or as to voting, agreeing or consenting (or abstaining therefrom) with respect to any amendment to or waiver of any terms of, or taking any action whatsoever with respect to, the Notes and/or the Indentures.

(b) Existence; Authority; Binding Effect . The Undersigned and each Noteholder is duly incorporated or organized, validly existing and in good standing under the laws of its jurisdiction of organization. The Undersigned has full legal capacity, power and authority to execute and deliver this Agreement, and any other agreements or instruments executed or to be executed by it in connection herewith and to consummate the transactions contemplated herein and therein. The execution, delivery and performance by the Undersigned and each of the Noteholders of this Agreement and any other agreements or instruments executed or to be executed and delivered by the Undersigned or any of the Noteholders in connection herewith, and the consummation of the transactions contemplated hereby and thereby by the Undersigned and any of the Noteholders, have been duly and validly authorized and approved by the board of directors or other governing body of the Undersigned (for itself and in connection with the authority granted to the Undersigned by each Noteholder), and no other actions on the part of the Undersigned or any of the Noteholders (including any notices, filings or consents) are necessary in respect thereof. This Agreement has been duly executed and delivered by the Undersigned, and this Agreement is, and the other agreements and instruments executed hereunder by the Undersigned in connection herewith will be, a valid and binding obligation of the Undersigned and each of the Noteholders, in each case, to the extent party thereto, enforceable in accordance with its respective terms, except as enforcement thereof may be limited by bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws relating to or affecting enforcement of creditors' rights generally and except as enforcement thereof is subject to general principles of equity (regardless of whether enforcement is considered in a proceeding in equity or at law) (collectively, the "Enforceability Exceptions").

(c) No Violation. None of the execution and delivery of this Agreement, or any other agreements or instruments executed and delivered by the Undersigned or the Noteholders in connection herewith, nor the performance of any obligations hereunder or thereunder by the Undersigned or the Noteholders, including the exchange of the Exchanged Notes pursuant to this Agreement, will conflict with, or result in any violation of, or default (with or without notice or lapse of time, or both) under or result in the creation of any Lien upon the Exchanged Notes held by the Noteholders under (i) the organizational documents of each such Noteholder, including any certificate

of formation, limited partnership agreement or similar agreement; (ii) any law, regulation, order, writ, injunction or decree applicable to the Noteholders or by which any property or asset of the Noteholders is bound or affected; or (iii) any note, bond, mortgage, indenture, contract, agreement, lease, license, permit, franchise, or other instrument or obligation to which such Noteholders are a party or by which the Noteholders or any property or asset of the Noteholders are bound or affected.

(d) Consents and Approvals. No consent, approval, order or authorization of, or registration, declaration, filing with or notice to, any governmental entity or any other person is required to be obtained, made or given by or with respect to the Undersigned or any of the Noteholders in connection with the execution and delivery of this Agreement or other agreements or instruments executed and delivered hereunder or thereunder by the Undersigned or the Noteholders, or the performance of any obligations hereunder or thereunder by the Undersigned or the Noteholders, including the Exchange.

(e) No Affiliate Status. Neither the Undersigned nor any of the Noteholders are, and have not been during the consecutive three-month period preceding the date hereof, a director, officer or "affiliate" within the meaning of Rule 144 promulgated under the Securities Act (an "**Affiliate**") of the Company. The Noteholders did not acquire the Exchanged Note, directly or indirectly, from an Affiliate of the Company. The Noteholders and their Affiliates collectively beneficially own and will beneficially own as of the Closing Date (but without giving effect to the Exchange) (i) less than 5% of the outstanding Common Stock and (ii) less than 5% of the aggregate number of votes that may be cast by holders of those outstanding securities of the Company that entitle the holders thereof to vote generally on all matters submitted to the Company's stockholders for a vote (the "**Voting Power**"). Immediately after the receipt by the Noteholders of the Exchanged Shares in the Exchange, the aggregate number of shares of Common Stock owned by the Noteholders and their Affiliates, together with the aggregate number of shares equal to

the notional value of any "long" derivative transaction relating to such Common Stock to which the Noteholders or their Affiliate are a party (excluding derivative transactions relating to broad based indices), will not exceed 4.9% of the outstanding Common Stock. The Undersigned and the Noteholders are not a subsidiary, Affiliate or, to its knowledge, otherwise closely-related to any director or officer of the Company or beneficial owner of 5% or more of the outstanding Common Stock or Voting Power (each such director, officer or beneficial owner, a "**Related Party**"). To its knowledge, no Related Party beneficially owns 5% or more of the outstanding voting equity, or votes entitled to be cast by the outstanding voting equity, of the Undersigned or any of the Noteholders.

(f) Qualified Institutional Buyer. Each Noteholder is an "accredited investor" within the meaning of Rule 501(a) of Regulation D promulgated under the Securities Act, and a "qualified institutional buyer" within the meaning of Rule 144A promulgated under the Securities Act and is acquiring the Common Stock hereunder for investment for its own respective account and not with a view to, or for resale in connection with, any distribution thereof in a manner that would violate the registration requirements of the Securities Act.

(g) Adequate Information; No Reliance. The Undersigned and each Noteholder acknowledges and agrees that (i) it has access to (including through the EDGAR system) and has reviewed the Company's reports filed with the Securities and Exchange Commission, including the "risk factors" contained in such reports, and it has been furnished with all materials it considers relevant to making an investment decision to enter into the Exchange and has had the opportunity to review the Company's filings and submissions with the Securities and Exchange Commission,

including, without limitation, all information filed or furnished pursuant to the Exchange Act, (ii) it has had a full opportunity to ask questions of and receive answers from the officers of the Company concerning the Company, its business, operations, financial performance, financial condition and prospects, and the terms and conditions of the Exchange and its investment in the Exchanged Shares, (iii) such Noteholder, together with its professional advisers, is a sophisticated and experienced investor and is capable of evaluating, to its satisfaction, the accounting, tax, financial, legal and other risks associated with the Exchange and its investment in the Exchanged Shares, and that such Noteholder has had the opportunity to consult with its accounting, tax, financial and legal advisors to be able to evaluate the risks involved in the Exchange and its investment in the Exchanged Shares and to make an informed investment decision with respect to such Exchange and investment in the Exchanged Shares, and that such Noteholder is capable of sustaining any loss resulting therefrom without material injury, (iv) it understands that no federal or state agency has passed upon the merits or risks of an investment in the Common Stock or made any finding or determination concerning the fairness or advisability of its investment in the Exchanged Shares or the Exchange, and none of the Company or its representatives or Affiliates is acting as a fiduciary or financial or investment advisor to such Noteholder, (v) it is not relying, and has not relied, upon any statement, advice (whether accounting, tax, financial, legal or other), representation or warranty made by the Company or any of its Affiliates or representatives, except for the representations and warranties made by the Company in this Agreement, (vi) no statement or written material contrary to this Agreement has been made or given to such Noteholder by or on behalf of the Company and (vii) such Noteholder has such knowledge and experience in financial and business matters as to be capable of evaluating the merits and risks of the prospective investment in the Exchanged Shares and has the ability to bear the economic risks of its investment and can afford the complete loss of such investment.

The Undersigned and each Noteholder also specifically acknowledges that the Company would not enter into this Agreement or any related documents in the absence of the Undersigned's and each Noteholder's representations and acknowledgments set out in this Agreement, and that this Agreement, including such representations and acknowledgments, are a fundamental inducement to the Company, and a substantial portion of the consideration provided by the Undersigned and each Noteholder, in this transaction, and that the Company would not enter into this transaction but for this inducement.

The Undersigned agrees that it shall and it shall cause each Noteholder to, upon request, execute and deliver any additional documents reasonably deemed by the Company, the Trustee or the transfer agent for the Common Stock to be necessary or desirable to complete the Exchange.

(h) Tax Consequences of the Exchange. The Undersigned and each Noteholder understands that the tax consequences of the Exchange will depend in part on its own tax circumstances. The Undersigned and each Noteholder acknowledges that it must consult its own tax adviser about the federal, foreign, state and local tax consequences peculiar to its circumstances. On or prior to the Closing, the Undersigned, on behalf of each Noteholder, shall deliver to the Company completed IRS Forms W-9 or W-8, as applicable, with regards to each such Noteholder. The Undersigned and Noteholder acknowledges that it has not relied on and will not rely on the Company with respect to any tax consequences related to the Exchange. The Undersigned and each Noteholder assumes full responsibility for all such consequences and for the preparation and filing of any tax returns and elections which may or must be filed in connection with its beneficial ownership of the Exchanged Notes, the Exchanged Shares or the Exchange.

(i) Proceedings. Neither the Undersigned nor any of the Noteholders know of any proceedings relating to the Exchanged Notes or the Exchange that are pending or threatened before any court, arbitrator or administrative or governmental body that would adversely affect the completion of the Exchange.

(j) Full Satisfaction of Obligations. The Undersigned and each Noteholder acknowledges that upon the issuance of the Exchanged Shares and the payment of the Cash Payment, the obligations of the Company to the Undersigned and the Noteholders under the Exchanged Notes shall have been satisfied in full.

(k) No Broker's Fees. The Undersigned and the Noteholders have not incurred nor become liable for any broker's commissions or finder's fee relating to the transactions contemplated by this Agreement.

5. Representations and Warranties of the Company. The Company represents and warrants to the Undersigned and each of the Noteholders as follows:

(a) Existence; Authority; Binding Effect . The Company is (i) duly incorporated, validly existing and in good standing under the laws of its jurisdiction of organization and has full power and authority to own, lease and operate its properties and to carry on its business as it is now being conducted and (ii) duly qualified or licensed as a foreign corporation to do business, and is in good standing, in each jurisdiction where the character of the properties owned, leased or operated by it or the nature of its business makes such qualification or licensing necessary, except for any such failures to be so qualified or licensed and in good standing as that, individually or in the aggregate, have not had and would not reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole. The execution and delivery of this Agreement and any other agreements or instruments executed or to be executed and delivered in connection herewith, and the consummation of the transactions contemplated hereby and thereby, by the Company, including the issuance and delivery of the Exchanged Shares to the Noteholder pursuant to this Agreement, have been duly and validly authorized and approved by all necessary corporate actions of the Company and no other actions on the part of the Company are necessary in respect thereof other than those that will be taken prior to the Closing. This Agreement is, and each agreement and instrument executed hereunder by the Company in connection herewith will be, a valid and binding obligation of the Company, enforceable in accordance with its respective terms, except as enforcement thereof may be limited by the Enforceability Exceptions.

(b) No Violation. None of the execution, delivery or performance of this Agreement and each of the other agreements or instruments executed and delivered by the Company in connection herewith, will conflict with, or result in any violation of, or default (with or without notice or lapse of time, or both) under or give rise to a right of termination, cancellation, modification or acceleration of any obligation or to a loss of a benefit under, or result in the creation of any lien upon any of the properties or assets of the Company under (i) the certificate of incorporation, bylaws or similar organizational documents of the Company; (ii) any law, regulation, order, writ, injunction or decree applicable to the Company or by which any property or asset of the Company is bound or affected; or (iii) any note, bond, mortgage, indenture, contract, agreement, lease, license, permit, franchise, or other instrument or obligation to which the Company is a party or by which the Company or any property or asset of the Company is bound or affected, except, in the case of clause (ii) or (iii) above, for any such conflict, violation or default that would not be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(c) Consents and Approvals. No consent, approval, order or authorization of, or registration, declaration, filing with or notice to, any governmental entity or any other person is required to be obtained, made or given by or with respect to the Company in connection with the execution and delivery of this Agreement or other agreements or instruments executed and delivered hereunder or thereunder by the Company, or the performance of any obligations hereunder or thereunder by the Company, including the Exchange, other than those that will be obtained prior to Closing and other than such filings or notices that will be made by the Company in accordance with applicable deadline requirements.

(d) Valid Issuance of the Common Stock. The Exchanged Shares (i) have been duly authorized and, upon their issuance pursuant to the Exchange against delivery of the Exchanged Notes, will be validly issued, fully paid and non-assessable, (ii) will not, at the Closing, be subject to any preemptive, participation, rights of first refusal or other similar rights, (iii) assuming the accuracy of the Noteholder's representations and warranties hereunder, will be issued in the Exchange exempt from the registration requirements of the Securities Act pursuant to Section 4(a)(2) of the Securities Act, and (iv) will be issued without any legends that restrict the transfer of such Exchange Shares under the U.S. federal securities laws. Upon delivery of such Exchange Shares to the Noteholders pursuant to this Agreement, such Exchange Shares shall be free and clear of all Liens created by the Company.

(e) No Broker's Fees . The Company has not incurred nor become liable for any broker's commissions or finder's fee relating to the transactions contemplated by this Agreement.

6. Conditions to Closing. The obligation of each party to effect the Exchange, and to execute and deliver documents, at the Closing is subject to the satisfaction at or prior to the Closing of the following conditions:

(a) the representations and warranties of the Noteholders contained in Section 4 hereof shall be true and correct in all respects as of the date of this Agreement and as of the Closing, with the same force and effect as though made on and as of such date; and

(b) the representations and warranties of the Company contained in Section 5 hereof shall be true and correct in all respects as of the date of this Agreement and as of the Closing, with the same force and effect as though made on and as of such date.

7. Miscellaneous.

(a) Entire Agreement. This Agreement and any documents and agreements executed in connection with the Exchange embody the entire agreement and understanding of the parties hereto with respect to the subject matter hereof and supersede all prior and contemporaneous oral or written agreements,
representations, warranties, contracts, correspondence, conversations, memoranda and understandings between or among the parties or any of their agents, representatives or Affiliates relative to such subject matter, including, without limitation, any term sheets, emails or draft documents.

(b) Amendments and Waivers. Amendments or modifications to this Agreement may only be made, and compliance with any term, covenant, agreement, condition or provision set

forth herein may only be omitted or waived (either generally or in a particular instance and either retroactively or prospectively), upon the written consent of each party hereto.

(c) Construction. References in the singular shall include the plural, and vice versa, unless the context otherwise requires. References in the masculine shall include the feminine and neuter, and vice versa, unless the context otherwise requires. Headings in this Agreement are for convenience of reference only and shall not limit or otherwise affect the meanings of the provisions hereof. Neither party, nor its respective counsel, shall be deemed the drafter of this Agreement for purposes of construing the provisions of this Agreement, and all language in all parts of this Agreement shall be construed in accordance with its fair meaning, and not strictly for or against either party.

(d) Costs and Expenses. The Noteholders and the Company shall each pay their own respective costs and expenses incurred in connection with the negotiation, preparation, execution and performance of this Agreement, including, but not limited to, attorneys' fees.

(e) Governing Law. This Agreement shall in all respects be construed in accordance with and governed by the substantive laws of the State of New York, without reference to any choice of law rules (whether of the State of New York or any other jurisdictions) to the extent such rules would cause the application of the laws of any jurisdictions other than the State of New York. Each party hereby irrevocably submits to the jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY**.

(f) Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument. Any counterpart or other signature hereon delivered by email shall be deemed for all purposes as constituting good and valid execution and delivery of this Agreement by such party.

(g) Further Assurances. Each party hereto shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as any other party hereto may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

[Signature Page Follows]

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed as of the date first above written.

ENPHASE ENERGY, INC.

By: /S/ Eric Branderiz
Name: Eric Branderiz
Title: Chief Financial Officer

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed as of the date first above written.

"Undersigned"
LINDEN ADVISORS LP

By: Linden Advisors LP, in its capacities described in the first paragraph hereof

By: /S/ Saul Ahn
Name: Saul Ahn
Title: General Counsel / Authorized signatory

EXHIBIT A

[*]

EXHIBIT B

[*]

EXCHANGE AGREEMENT
EXHIBIT A-1

[*]

EXHIBIT A-2

[*]

EXHIBIT A-3

[*]

EXHIBIT A-4

[*]

EXHIBIT B-1

[*]

EXHIBIT B-2

[*]

EXHIBIT B-3

[*]

EXHIBIT B-4

[*]

Execution

PARTIAL UNWIND AGREEMENT
with respect to the Base Call Option Confirmation, dated May 30, 2019
between Enphase Energy, Inc. and Barclays Bank PLC

THIS PARTIAL UNWIND AGREEMENT (this "**Agreement**") with respect to the Base Call Option Confirmation (as defined below) and the Additional Call Option Confirmation (as defined below) is made as of December 14, 2020 between Enphase Energy, Inc. (the "**Company**") and Barclays Bank PLC ("**Dealer**"), acting through its agent Barclays Capital Inc. ("**Agent**").

WHEREAS, the Company and Dealer entered into (i) a Base Call Option confirmation, dated as of May 30, 2019 (the "**Base Call Option Confirmation**") (ii) an Additional Call Option confirmation, dated as of June 4, 2019 (the "**Additional Call Option Confirmation**" and together with the Base Call Option Confirmation, the "**Call Option Confirmations**"), pursuant to which the Dealer issued to the Company options to purchase shares of common stock of the Company (the "**Transactions**");

WHEREAS, the Company has requested, and Dealer has agreed, to unwind the Base Call Option Confirmation with respect to 38,500 Options (the "**Unwind Options**") underlying the Base Call Option Confirmation;

NOW, THEREFORE, in consideration of their mutual covenants herein contained, the parties hereto, intending to be legally bound, hereby mutually covenant and agree as follows:

1. Defined Terms. Any capitalized term not otherwise defined herein shall have the meaning set forth for such term in the Call Option Confirmations.

2. Partial Options Unwind. On the Delivery Date (as defined below), the Number of Options in the Base Call Option Confirmation shall be reduced by the number of Unwind Options, from 120,000 to 81,500.

3. [Reserved.]

4. Procedures for Partial Unwind. Pursuant to the terms of this Agreement, during the Hedge Unwind Period (as defined below) Dealer (or an affiliate of Dealer), for the account of Dealer, shall unwind a portion of its hedge of the Options underlying the Base Call Option Confirmation.

5. Delivery. On the first Scheduled Trading Day following the conclusion of the Hedge Unwind Period, or if such day is not a Currency Business Day, on the next Currency Business Day immediately following such day (the "**Delivery Date**"), Dealer shall deliver to the Company a number of Shares equal to an amount equal to the *product* of (i) the number of Unwind Options *multiplied by* (ii) the Cash Settlement Amount per Option in respect of such Hedge Unwind Period (as determined based on the grid attached as Exhibit A to this Agreement) *divided by* (iii) the VWAP Price (as defined on the attached Exhibit A to this Agreement). "**Hedge Unwind Period**" means December 15, 2020, subject to the immediately succeeding paragraph.

Notwithstanding anything to the contrary in this Agreement, if (i) the Scheduled Trading Day during any Hedge Unwind Period is a Disrupted Day (as defined in the Call Option Confirmations) or (ii) Dealer determines, based on the advice of counsel, that on any Scheduled Trading Day during the Hedge Unwind Period an extension of such Hedge Unwind Period is reasonably necessary or advisable to preserve Dealer's hedge unwind activity hereunder in light of existing liquidity conditions or to enable Dealer to effect sales of Shares in connection with its hedge unwind activity hereunder in a manner that would be in compliance with applicable legal, regulatory or self-regulatory requirements, or with related policies and procedures applicable to Dealer, then the Daily Price for such Scheduled Trading Day(s) shall be the volume-weighted average price per Share on such Scheduled Trading Day on the Exchange, as determined by the Calculation Agent based on transactions in the Shares on such Scheduled Trading Day taking into account, if applicable, the nature and duration of such Market Disruption Event, and the number of Scheduled Trading Days and the Cash Settlement Amount per Option related to the Hedge Unwind Period shall be adjusted by the Calculation Agent to account for such disruption and/or extension.

6. Representations and Warranties of the Company. The Company represents and warrants to Dealer on the date hereof that:

(a) the Company has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to the Company, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by the Company with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with;

(d) the Company's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law));

(e) each of the Company and its affiliates is not in possession of any material nonpublic information regarding the Company or its common stock;

(f) the Company (A) is capable of evaluating investment risks independently, both in general and with regard to all transactions and investment strategies involving a security or securities; (B) will exercise independent judgment in evaluating the recommendations of any broker-dealer or its associated persons, unless it has otherwise notified the broker-dealer in writing; and (C) has total assets of at least $50 million;

(g) the Company is not entering into this Agreement to create actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or to raise or depress or otherwise manipulate the price of the Shares (or any security convertible into or exchangeable for the Shares) or otherwise in violation of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**");

(h) the Company is an "eligible contract participant" (as such term is defined in Section 1a(18) of the Commodity Exchange Act, as amended, other than a person that is an eligible contract participant under Section 1a(18)(C) of the Commodity Exchange Act);

(i) the Company is not and, after consummation of the transactions contemplated hereby, will not be required to register as an "investment company" as such term is defined in the Investment Company Act of 1940, as amended;

(j) the Company agrees that on each day during the Hedge Unwind Period, the Shares shall not be subject to a "restricted period," as such term is defined in Regulation M under the Exchange Act and that the Company shall not engage in any "distribution," as such term is defined in Regulation M under the Exchange Act, other than a distribution meeting the requirements of the exceptions set forth in sections 101(b)(10) and 102(b)(7) of Regulation M under the Exchange Act, until the second Exchange Business Day immediately following the last day of the Hedge Unwind Period;

(k) the Company agrees that on each Scheduled Trading Day during the Hedge Unwind Period, neither the Company nor any "affiliated purchaser" (as defined in Rule 10b-18 of the Exchange Act) shall directly or indirectly (including, without limitation, by means of any cash-settled or other derivative instrument) purchase, offer to purchase, place any bid or limit order that would effect a purchase of, or commence any tender offer relating to, any Shares (or an equivalent interest, including a unit of beneficial interest in a trust or limited partnership or a depository share); and

(l) the Company agrees that prior to the date hereof it has notified Dealer of the total number of Shares, if any, purchased by or for the Company or any of its affiliated purchasers in Rule 10b-18 purchases of blocks (all as defined in Rule 10b-18 under the Exchange Act) pursuant to the once-a-week block exception set forth in Rule 10b-18(b)(4) during the four full calendar weeks immediately preceding the date hereof.

7. Representations and Warranties of Dealer. Dealer represents and warrants to the Company on the date hereof that:

(a) Dealer has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to Dealer, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by Dealer with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with; and

(d) Dealer's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law)).

8. Account for Payment to the Company:

To be advised.

9. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York (without reference to choice of law doctrine).

10. No Other Changes. Except as expressly set forth herein, all of the terms and conditions of the Call Option Confirmations shall remain in full force and effect and are hereby confirmed in all respects.

11. Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if all of the signatures thereto and hereto were upon the same instrument.

12. No Reliance, etc. The Company hereby confirms that it has relied on the advice of its own counsel and other advisors (to the extent it deems appropriate) with respect to any legal, tax, accounting, or regulatory consequences of this Agreement, that it has not relied on Dealer or its affiliates in any respect in connection therewith, and that it will not hold Dealer or its affiliates accountable for any such consequences.

13. Acknowledgments and Agreements. The Company acknowledges and agrees that (i) the Company does not have, and shall not attempt to exercise, any influence over how, when or whether to effect sales of the Shares by Dealer (or its agent or affiliate) in connection with this Agreement and (ii) the Company is entering into this Agreement in good faith and not as part of a plan or scheme to evade compliance with federal securities laws including, without limitation, Rule 10b-5 promulgated under the Securities Exchange Act of 1934, as amended. For the avoidance of doubt, the Company agrees that Section 13.2 of the Equity Definitions remains applicable with respect to any Hedge Positions and Hedging Activities of Dealer in respect of the Transactions subject to the Call Option Confirmations and the transactions contemplated by this Agreement.

14. Unwind Options. Except for the delivery pursuant to this Agreement, the parties agree that no payments or deliveries shall become due or payable and no exercises shall occur, with respect to the Unwind Options; *provided, however*, that until the last day of the Hedge Unwind Period, the "Cash Settlement Amount per Option" shall remain subject to adjustment by the Calculation Agent in a manner consistent with, and for the same events that would result in an adjustment to the terms of, the Call Option Confirmations.

15. [Reserved.]

16. Role of Agent. Each of Dealer and the Company acknowledges to and agrees with the other party hereto and to and with the Agent that (i) the Agent is acting as agent for Dealer under the Transactions pursuant to instructions from such party, (ii) the Agent is not a principal or party to the Transactions, and may transfer its rights and obligations with respect to the Transactions, (iii) the Agent shall have no responsibility, obligation or liability, by way of issuance, guaranty, endorsement or otherwise in any manner with respect to the performance of either party under the Transactions, (iv) Dealer and the Agent have not given, and the Company is not relying (for purposes of making any investment decision or otherwise) upon, any statements, opinions or representations (whether written or oral) of Dealer or the Agent, other than the

representations expressly set forth in this Agreement, and (v) each party agrees to proceed solely against the other party, and not the Agent, to collect or recover any money or securities owed to it in connection with the Transactions. Each party hereto acknowledges and agrees that the Agent is an intended third party beneficiary hereunder. Company acknowledges that the Agent is an affiliate of Dealer. Dealer will be acting for its own account in respect of this Agreement and the Transactions contemplated in the Confirmations thereunder.

17. Side Letters. The parties further agree that each of the following side letters to the Transactions shall continue in full force and effect:

(a) The letter agreement by and between Dealer and the Company dated as of May 30, 2019, specifying certain additional terms and conditions of the Base Call Option Confirmation issued by Dealer to the Company; and

(b) The letter agreement by and between Dealer and the Company dated as of June 4, 2019, specifying certain additional terms and conditions of the Additional Call Option Confirmation issued by Dealer to the Company.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT the day and the year first above written.

ENPHASE ENERGY, INC.
By: /S/ Eric Branderiz
Authorized Signatory
Title: Chief Financial Officer

BARCLAYS BANK PLC

By: /S/ Faiz Khan
Authorized Signatory

EXHIBIT A

VWAP Price	Cash Settlement Amount per Option
$135.00	$2,234.02
$136.00	$2,253.53
$137.00	$2,273.04
$138.00	$2,292.55
$139.00	$2,312.06
$140.00	$2,331.57
$141.00	$2,351.08
$142.00	$2,370.60
$143.00	$2,390.11
$144.00	$2,409.62
$145.00	$2,429.13
$146.00	$2,448.64
$147.00	$2,468.15
$148.00	$2,487.66
$149.00	$2,507.17
$150.00	$2,526.69

If the VWAP Price is not specified on the grid above, the Cash Settlement Amount per Option shall be determined based on a straight-line interpolation between the VWAP Prices or extrapolation from the VWAP Prices (as the case may be) specified on the grid above.

"**VWAP Price**" means the arithmetic average of the Daily Prices for all Scheduled Trading Days in the Hedge Unwind Period.

"**Daily Price**" for any Scheduled Trading Day means the per Share volume-weighted average price as displayed under the heading "Bloomberg VWAP" on Bloomberg page ENPH <equity> AQR (or any successor thereto) in respect of the period from 9:30 a.m. to 4:00 p.m. (New York City time) on such Scheduled Trading Day (or if such volume-weighted average price is unavailable or manifestly incorrect, the market value of one Share on such Scheduled Trading Day, as determined by the Calculation Agent).

Execution

PARTIAL UNWIND AGREEMENT
with respect to the Base Call Option Confirmation, dated May 30, 2019
between Enphase Energy, Inc. and Credit Suisse Capital LLC

THIS PARTIAL UNWIND AGREEMENT (this "**Agreement**") with respect to the Base Call Option Confirmation (as defined below) and the Additional Call Option Confirmation (as defined below) is made as of December 14, 2020 between Enphase Energy, Inc. (the "**Company**") and Credit Suisse Capital LLC ("**Dealer**"), acting through its agent Credit Suisse Securities (USA) LLC ("**Agent**").

WHEREAS, the Company and Dealer entered into (i) a Base Call Option confirmation, dated as of May 30, 2019 (the "**Base Call Option Confirmation**") (ii) an Additional Call Option confirmation, dated as of June 4, 2019 (the "**Additional Call Option Confirmation**" and together with the Base Call Option Confirmation, the "**Call Option Confirmations**"), pursuant to which the Dealer issued to the Company options to purchase shares of common stock of the Company (the "**Transactions**");

WHEREAS, the Company has requested, and Dealer has agreed, to unwind the Base Call Option Confirmation with respect to 38,500 Options (the "**Unwind Options**") underlying the Base Call Option Confirmation;

NOW, THEREFORE, in consideration of their mutual covenants herein contained, the parties hereto, intending to be legally bound, hereby mutually covenant and agree as follows:

1. Defined Terms. Any capitalized term not otherwise defined herein shall have the meaning set forth for such term in the Call Option Confirmations.

2. Partial Options Unwind. On the Delivery Date (as defined below), the Number of Options in the Base Call Option Confirmation shall be reduced by the number of Unwind Options, from 120,000 to 81,500.

3. [Reserved]

4. Procedures for Partial Unwind. Pursuant to the terms of this Agreement, during the Hedge Unwind Period (as defined below) Dealer (or an affiliate of Dealer), for the account of Dealer, shall unwind a portion of its hedge of the Options underlying the Base Call Option Confirmation.

5. Delivery. On the first Scheduled Trading Day following the conclusion of the Hedge Unwind Period, or if such day is not a Currency Business Day, on the next Currency Business Day immediately following such day (the "**Delivery Date**"), the Dealer shall deliver to the Company a number of Shares equal to an amount equal to the *product* of (i) the number of Unwind Options *multiplied by* (ii) the Cash Settlement Amount per Option in respect of such Hedge Unwind Period (as determined based on the grid attached as Exhibit A to this Agreement) *divided by* (iii) the VWAP Price (as defined on the attached Exhibit A to this Agreement). "**Hedge Unwind Period**" means December 15, 2020, subject to the immediately succeeding paragraph.

Notwithstanding anything to the contrary in this Agreement, if (i) the Scheduled Trading Day during any Hedge Unwind Period is a Disrupted Day (as defined in the Call Option Confirmations) or (ii) Dealer determines, based on the advice of counsel, that on any Scheduled Trading Day during the Hedge Unwind Period an extension of such Hedge Unwind Period is reasonably necessary or advisable to preserve Dealer's hedge unwind activity hereunder in light of existing liquidity conditions or to enable Dealer to effect sales of Shares in connection with its hedge unwind activity hereunder in a manner that would be in compliance with applicable legal, regulatory or self-regulatory requirements, or with related policies and procedures applicable to Dealer, then the Daily Price for such Scheduled Trading Day(s) shall be the volume-weighted average price per Share on such Scheduled Trading Day on the Exchange, as determined by the Calculation Agent based on transactions in the Shares on such Scheduled Trading Day taking into account, if applicable, the nature and duration of such Market Disruption Event, and the number of Scheduled Trading Days and the Cash Settlement Amount per Option related to the Hedge Unwind Period shall be adjusted by the Calculation Agent to account for such disruption and/or extension.

6. Representations and Warranties of the Company. The Company represents and warrants to Dealer on the date hereof that:

(a) the Company has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to the Company, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by the Company with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with;

(d) the Company's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law));

(e) each of the Company and its affiliates is not in possession of any material nonpublic information regarding the Company or its common stock;

(f) the Company (A) is capable of evaluating investment risks independently, both in general and with regard to all transactions and investment strategies involving a security or securities; (B) will exercise independent judgment in evaluating the recommendations of any broker-dealer or its associated persons, unless it has otherwise notified the broker- dealer in writing; and (C) has total assets of at least $50 million;

(g) the Company is not entering into this Agreement to create actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or to raise or depress or otherwise manipulate the price of the Shares (or any security convertible into or exchangeable for the Shares) or otherwise in violation of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**");

(h) the Company is an "eligible contract participant" (as such term is defined in Section 1a(18) of the Commodity Exchange Act, as amended, other than a person that is an eligible contract participant under Section 1a(18)(C) of the Commodity Exchange Act);

(i) the Company is not and, after consummation of the transactions contemplated hereby, will not be required to register as an "investment company" as such term is defined in the Investment Company Act of 1940, as amended;

(j) the Company agrees that on each day during the Hedge Unwind Period, the Shares shall not be subject to a "restricted period," as such term is defined in Regulation M under the Exchange Act and that the Company shall not engage in any "distribution," as such term is defined in Regulation M under the Exchange Act, other than a distribution meeting the requirements of the exceptions set forth in sections 101(b)(10) and 102(b)(7) of Regulation M under the Exchange Act, until the second Exchange Business Day immediately following the last day of the Hedge Unwind Period;

(k) the Company agrees that on each Scheduled Trading Day during the Hedge Unwind Period, neither the Company nor any "affiliated purchaser" (as defined in Rule 10b-18 of the Exchange Act) shall directly or indirectly (including, without limitation, by means of any cash-settled or other derivative instrument) purchase, offer to purchase, place any bid or limit order that would effect a purchase of, or commence any tender offer relating to, any Shares (or an equivalent interest, including a unit of beneficial interest in a trust or limited partnership or a depository share); and

(l) the Company agrees that prior to the date hereof it has notified Dealer of the total number of Shares, if any, purchased by or for the Company or any of its affiliated purchasers in Rule 10b-18 purchases of blocks (all as defined in Rule 10b-18 under the Exchange Act) pursuant to the once-a-week block exception set forth in Rule 10b-18(b)(4) during the four full calendar weeks immediately preceding the date hereof.

7. Representations and Warranties of Dealer. Dealer represents and warrants to the Company on the date hereof that:

(a) Dealer has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to Dealer, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by Dealer with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with; and

(d) Dealer's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law)).

8. Account for Payment to the Company:

To be advised.

9. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York (without reference to choice of law doctrine).

10. No Other Changes. Except as expressly set forth herein, all of the terms and conditions of the Call Option Confirmations shall remain in full force and effect and are hereby confirmed in all respects.

11. Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if all of the signatures thereto and hereto were upon the same instrument.

12. No Reliance, etc. The Company hereby confirms that it has relied on the advice of its own counsel and other advisors (to the extent it deems appropriate) with respect to any legal, tax, accounting, or regulatory consequences of this Agreement, that it has not relied on Dealer or its affiliates in any respect in connection therewith, and that it will not hold Dealer or its affiliates accountable for any such consequences.

13. Acknowledgments and Agreements. The Company acknowledges and agrees that (i) the Company does not have, and shall not attempt to exercise, any influence over how, when or whether to effect sales of the Shares by Dealer (or its agent or affiliate) in connection with this Agreement and (ii) the Company is entering into this Agreement in good faith and not as part of a plan or scheme to evade compliance with federal securities laws including, without limitation, Rule 10b-5 promulgated under the Securities Exchange Act of 1934, as amended. For the avoidance of doubt, the Company agrees that Section 13.2 of the Equity Definitions remains applicable with respect to any Hedge Positions and Hedging Activities of Dealer in respect of the Transactions subject to the Call Option Confirmations and the transactions contemplated by this Agreement.

14. Unwind Options. Except for the delivery pursuant to this Agreement, the parties agree that no payments or deliveries shall become due or payable and no exercises shall occur, with respect to the Unwind Options; *provided, however*, that until the last day of the Hedge Unwind Period, the "Cash Settlement Amount per Option" shall remain subject to adjustment by the Calculation Agent in a manner consistent with, and for the same events that would result in an adjustment to the terms of, the Call Option Confirmations.

15. U.S. Stay Regulations. The parties agree that (i) to the extent that prior to the date hereof both parties have adhered to the 2018 ISDA U.S. Resolution Stay Protocol (the "**Protocol**"), the terms of the Protocol are incorporated into and form a part of this Agreement, and for such purposes this Agreement shall be deemed a Protocol Covered Agreement and each party shall be deemed to have the same status as "Regulated Entity" and/or "Adhering Party" as applicable to it under the Protocol; (ii) to the extent that prior to the date hereof the parties have executed a separate agreement the effect of which is to amend the qualified financial contracts between them to conform with the requirements of the QFC Stay Rules (the "Bilateral Agreement"), the terms of the Bilateral Agreement are incorporated into and form a part of this Agreement and each party shall be deemed to have the status of "Covered Entity" or "Counterparty Entity" (or other similar term) as applicable to it under the Bilateral Agreement; or (iii) if clause (i) and clause (ii) do not apply, the terms of Section 1 and Section 2 and the related defined terms (together, the "**Bilateral Terms**") of the form of bilateral template entitled "Full- Length Omnibus (for use between U.S. G-SIBs and Corporate Groups)" published by ISDA on November 2, 2018 (currently available on the 2018 ISDA U.S. Resolution Stay Protocol page at www.isda.org and, a copy of which is available upon request), the effect of which is to amend the qualified financial contracts between the parties thereto to conform with the requirements of the QFC Stay Rules, are hereby incorporated into and form a part of this Agreement, and for such purposes this Agreement shall be deemed a "Covered Agreement," Dealer shall be deemed a "Covered Entity" and the Company shall be deemed a "Counterparty Entity." In the event that, after the date of

this Agreement, both parties hereto become adhering parties to the Protocol, the terms of the Protocol will replace the terms of this paragraph. In the event of any inconsistencies between this Agreement and the terms of the Protocol, the Bilateral Agreement or the Bilateral Terms (each, the "QFC Stay Terms"), as applicable, the QFC Stay Terms will govern. Terms used in this paragraph without definition shall have the meanings assigned to them under the QFC Stay Rules. For purposes of this paragraph, references to "this Agreement" include any related credit enhancements entered into between the parties or provided by one to the other. In addition, the parties agree that the terms of this paragraph shall be incorporated into any related covered affiliate credit enhancements, with all references to Dealer replaced by references to the covered affiliate support provider.

"**QFC Stay Rules**" means the regulations codified at 12 C.F.R. 252.2, 252.81–8, 12 C.F.R. 382.1-7 and 12 C.F.R. 47.1-8, which, subject to limited exceptions, require an express recognition of the stay-and-transfer powers of the FDIC under the Federal Deposit Insurance Act and the Orderly Liquidation Authority under Title II of the Dodd Frank Wall Street Reform and Consumer Protection Act and the override of default rights related directly or indirectly to the entry of an affiliate into certain insolvency proceedings and any restrictions on the transfer of any covered affiliate credit enhancements.

16. Role of Agent. Agent has no obligation hereunder, by guaranty, endorsement or otherwise, with respect to performance of Dealer's obligations hereunder or under the Transactions.

17. Side Letters. The parties further agree that each of the following side letters to the Transactions shall continue in full force and effect:

(a) The letter agreement by and between Dealer and the Company dated as of May 30, 2019, specifying certain additional terms and conditions of the Base Call Option Confirmation issued by Dealer to the Company; and

(b) The letter agreement by and between Dealer and the Company dated as of June 4, 2019, specifying certain additional terms and conditions of the Additional Call Option Confirmation issued by Dealer to the Company.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT the day and the year first above written.

ENPHASE ENERGY, INC.
By: /S/ Eric Branderiz
Authorized Signatory
Title: Chief Financial Officer

CREDIT SUISSE CAPITAL LLC
By: /S/ Bik Kwan Chung
Authorized Signatory

By: /S/ Erica Hryniuk
Authorized Signatory

CREDIT SUISSE SECURITIES (USA) LLC, AS AGENT
By: /S/ Bik Kwan Chung
Authorized Signatory

EXHIBIT A

VWAP Price	Cash Settlement Amount per Option
$135.00	$3,351.03
$136.00	$3,380.29
$137.00	$3,409.56
$138.00	$3,438.83
$139.00	$3,468.09
$140.00	$3,497.36
$141.00	$3,526.63
$142.00	$3,555.89
$143.00	$3,585.16
$144.00	$3,614.43
$145.00	$3,643.69
$146.00	$3,672.96
$147.00	$3,702.23
$148.00	$3,731.50
$149.00	$3,760.76
$150.00	$3,790.03

If the VWAP Price is not specified on the grid above, the Cash Settlement Amount per Option shall be determined based on a straight-line interpolation between the VWAP Prices or extrapolation from the VWAP Prices (as the case may be) specified on the grid above.

"**VWAP Price**" means the arithmetic average of the Daily Prices for all Scheduled Trading Days in the Hedge Unwind Period.

"**Daily Price**" for any Scheduled Trading Day means the per Share volume-weighted average price as displayed under the heading "Bloomberg VWAP" on Bloomberg page ENPH <equity> AQR (or any successor thereto) in respect of the period from 9:30 a.m. to 4:00 p.m. (New York City time) on such Scheduled Trading Day (or if such volume-weighted average price is unavailable or manifestly incorrect, the market value of one Share on such Scheduled Trading Day, as determined by the Calculation Agent).

Execution

PARTIAL UNWIND AGREEMENT
with respect to the Base Warrants Confirmation, dated May 30, 2019
between Enphase Energy, Inc. and Barclays Bank PLC

THIS PARTIAL UNWIND AGREEMENT (this "**Agreement**") with respect to the Base Warrants Confirmation (as defined below) and the Additional Warrants Confirmation (as defined below) is made as of December 14, 2020 between Enphase Energy, Inc. (the "**Company**") and Barclays Bank PLC ("**Dealer**"), acting through its agent Barclays Capital Inc. ("**Agent**").

WHEREAS, the Company and Dealer entered into (i) a Base Warrants confirmation, dated as of May 30, 2019 (the "**Base Warrants Confirmation**") (ii) an Additional Warrants confirmation, dated as of June 4, 2019 (the "**Additional Warrants Confirmation"** and together with the Base Warrants Confirmation, the "**Warrants Confirmations**"), pursuant to which the Company issued to the Dealer warrants to purchase shares of common stock of the Company (the "**Transactions**");

WHEREAS, the Company has requested, and Dealer has agreed, to unwind the Base Warrants Confirmation with respect to 855,762 Warrants (the "**Unwind Warrants**") underlying the Base Warrants Confirmation;

NOW, THEREFORE, in consideration of their mutual covenants herein contained, the parties hereto, intending to be legally bound, hereby mutually covenant and agree as follows:

1. Defined Terms. Any capitalized term not otherwise defined herein shall have the meaning set forth for such term in the Warrants Confirmations.

2. Partial Warrants Unwind. On the Delivery Date (as defined below), the Number of Warrants in the Base Warrants Confirmation shall be reduced by the number of Unwind Warrants, from 2,341,349 to 1,485,587.

3. [Reserved]

4. Procedures for Partial Unwind. Pursuant to the terms of this Agreement, during the Hedge Unwind Period (as defined below) Dealer (or an affiliate of Dealer), for the account of Dealer, shall unwind a portion of its hedge of the Warrants underlying the Base Warrants Confirmation.

5. Delivery. On the first Scheduled Trading Day following the conclusion of the Hedge Unwind Period, or if such day is not a Currency Business Day, on the next Currency Business Day immediately following such day (the "**Delivery Date**"), the Company shall deliver to Dealer a number of Shares equal to an amount equal to the *product* of (i) the number of Unwind Warrants *multiplied by* (ii) the Cash Settlement Amount per Warrant in respect of such Hedge Unwind Period (as determined based on the grid attached as Exhibit A to this Agreement) *divided by* (iii) the VWAP Price (as defined on the attached Exhibit A to this Agreement). "**Hedge Unwind Period**" means December 15, 2020, subject to the immediately succeeding paragraph.

Notwithstanding anything to the contrary in this Agreement, if (i) the Scheduled Trading Day during any Hedge Unwind Period is a Disrupted Day (as defined in the Warrants Confirmations) or (ii) Dealer determines, based on the advice of counsel, that on any Scheduled Trading Day during the Hedge Unwind Period an extension of such Hedge Unwind Period is reasonably necessary or advisable to preserve Dealer's hedge unwind activity hereunder in light of existing liquidity conditions or to enable Dealer to effect sales of Shares in connection with its hedge unwind activity hereunder in a manner that would be in compliance with applicable legal, regulatory or self-regulatory requirements, or with related policies and procedures applicable to Dealer, then the Daily Price for such Scheduled Trading Day(s) shall be the volume-weighted average price per Share on such Scheduled Trading Day on the Exchange, as determined by the Calculation Agent based on transactions in the Shares on such Scheduled Trading Day taking into account, if applicable, the nature and duration of such Market Disruption Event, and the number of Scheduled Trading Days and the Cash Settlement Amount per Warrant related to the Hedge Unwind Period shall be adjusted by the Calculation Agent to account for such disruption and/or extension.

6. Representations and Warranties of the Company. The Company represents and warrants to Dealer on the date hereof that:

(a) the Company has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to the Company, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by the Company with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with;

(d) the Company's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law));

(e) each of the Company and its affiliates is not in possession of any material nonpublic information regarding the Company or its common stock;

(f) the Company (A) is capable of evaluating investment risks independently, both in general and with regard to all transactions and investment strategies involving a security or securities; (B) will exercise independent judgment in evaluating the recommendations of any broker-dealer or its associated persons, unless it has otherwise notified the broker-dealer in writing; and (C) has total assets of at least $50 million;

(g) the Company is not entering into this Agreement to create actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or to raise or depress or otherwise manipulate the price of the Shares (or any security convertible into or exchangeable for the Shares) or otherwise in violation of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**");

(h) the Company is an "eligible contract participant" (as such term is defined in Section 1a(18) of the Commodity Exchange Act, as amended, other than a person that is an eligible contract participant under Section 1a(18)(C) of the Commodity Exchange Act);

(i) the Company is not and, after consummation of the transactions contemplated hereby, will not be required to register as an "investment company" as such term is defined in the Investment Company Act of 1940, as amended;

(j) the Company agrees that on each day during the Hedge Unwind Period, the Shares shall not be subject to a "restricted period," as such term is defined in Regulation M under the Exchange Act and that the Company shall not engage in any "distribution," as such term is defined in Regulation M under the Exchange Act, other than a distribution meeting the requirements of the exceptions set forth in sections 101(b)(10) and 102(b)(7) of Regulation M under the Exchange Act, until the second Exchange Business Day immediately following the last day of the Hedge Unwind Period;

(k) the Company agrees that on each Scheduled Trading Day during the Hedge Unwind Period, neither the Company nor any "affiliated purchaser" (as defined in Rule 10b-18 of the Exchange Act) shall directly or indirectly (including, without limitation, by means of any cash-settled or other derivative instrument) purchase, offer to purchase, place any bid or limit order that would effect a purchase of, or commence any tender offer relating to, any Shares (or an equivalent interest, including a unit of beneficial interest in a trust or limited partnership or a depository share); and

(l) the Company agrees that prior to the date hereof it has notified Dealer of the total number of Shares, if any, purchased by or for the Company or any of its affiliated purchasers in Rule 10b-18 purchases of blocks (all as defined in Rule 10b-18 under the Exchange Act) pursuant to the once-a-week block exception set forth in Rule 10b-18(b)(4) during the four full calendar weeks immediately preceding the date hereof.

7. Representations and Warranties of Dealer. Dealer represents and warrants to the Company on the date hereof that:

(a) Dealer has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to Dealer, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by Dealer with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with; and

(d) Dealer's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law)).

8. Account for Payment to the Company:

To be advised.

9. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York (without reference to choice of law doctrine).

10. No Other Changes. Except as expressly set forth herein, all of the terms and conditions of the Warrants Confirmations shall remain in full force and effect and are hereby confirmed in all respects.

11. Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if all of the signatures thereto and hereto were upon the same instrument.

12. No Reliance, etc. The Company hereby confirms that it has relied on the advice of its own counsel and other advisors (to the extent it deems appropriate) with respect to any legal, tax, accounting, or regulatory consequences of this Agreement, that it has not relied on Dealer or its affiliates in any respect in connection therewith, and that it will not hold Dealer or its affiliates accountable for any such consequences.

13. Acknowledgments and Agreements. The Company acknowledges and agrees that (i) the Company does not have, and shall not attempt to exercise, any influence over how, when or whether to effect sales of the Shares by Dealer (or its agent or affiliate) in connection with this Agreement and (ii) the Company is entering into this Agreement in good faith and not as part of a plan or scheme to evade compliance with federal securities laws including, without limitation, Rule 10b-5 promulgated under the Securities Exchange Act of 1934, as amended. For the avoidance of doubt, the Company agrees that Section 13.2 of the Equity Definitions remains applicable with respect to any Hedge Positions and Hedging Activities of Dealer in respect of the Transactions subject to the Warrants Confirmations and the transactions contemplated by this Agreement.

14. Unwind Warrants. Except for the delivery pursuant to this Agreement, the parties agree that no payments or deliveries shall become due or payable and no exercises shall occur, with respect to the Unwind Warrants; *provided, however*, that until the last day of the Hedge Unwind Period, the "Cash Settlement Amount per Warrant" shall remain subject to adjustment by the Calculation Agent in a manner consistent with, and for the same events that would result in an adjustment to the terms of, the Warrants Confirmations.

15. [Reserved.]

16. Role of Agent. Each of Dealer and the Company acknowledges to and agrees with the other party hereto and to and with the Agent that (i) the Agent is acting as agent for Dealer under the Transactions pursuant to instructions from such party, (ii) the Agent is not a principal or party to the Transactions, and may transfer its rights and obligations with respect to the Transactions, (iii) the Agent shall have no responsibility, obligation or liability, by way of issuance, guaranty, endorsement or otherwise in any manner with respect to the performance of either party under the Transactions, (iv) Dealer and the Agent have not given, and the Company is not relying (for purposes of making any investment decision or otherwise) upon, any statements, opinions or representations (whether written or oral) of Dealer or the Agent, other than the representations expressly set forth in this Agreement, and (v) each party agrees to proceed solely against the other party, and not the Agent, to collect or recover any money or securities owed to it in connection with the Transactions. Each party hereto acknowledges and agrees that the Agent is an intended third party beneficiary hereunder. Company acknowledges that the Agent is an affiliate of Dealer. Dealer will be acting for its own account in respect of this Agreement and the Transactions contemplated in the Confirmations thereunder.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT the day and the year first above written.

ENPHASE ENERGY, INC.
By: /S/ Eric Branderiz
Authorized Signatory
Title: Chief Financial Officer

BARCLAYS BANK PLC

By: /S/ Faiz Khan
Authorized Signatory

EXHIBIT A

VWAP Price	Cash Settlement Amount per Warrant
$135.00	$113.77
$136.00	$114.77
$137.00	$115.77
$138.00	$116.77
$139.00	$117.77
$140.00	$118.77
$141.00	$119.77
$142.00	$120.77
$143.00	$121.77
$144.00	$122.77
$145.00	$123.77
$146.00	$124.77
$147.00	$125.77
$148.00	$126.77
$149.00	$127.77
$150.00	$128.77

If the VWAP Price is not specified on the grid above, the Cash Settlement Amount per Warrant shall be determined based on a straight-line interpolation between the VWAP Prices or extrapolation from the VWAP Prices (as the case may be) specified on the grid above.

"**VWAP Price**" means the arithmetic average of the Daily Prices for all Scheduled Trading Days in the Hedge Unwind Period.

"**Daily Price**" for any Scheduled Trading Day means the per Share volume-weighted average price as displayed under the heading "Bloomberg VWAP" on Bloomberg page ENPH <equity> AQR (or any successor thereto) in respect of the period from 9:30 a.m. to 4:00 p.m. (New York City time) on such Scheduled Trading Day (or if such volume-weighted average price is unavailable or manifestly incorrect, the market value of one Share on such Scheduled Trading Day, as determined by the Calculation Agent).

Execution

PARTIAL UNWIND AGREEMENT
with respect to the Base Warrants Confirmation, dated May 30, 2019
between Enphase Energy, Inc. and Credit Suisse Capital LLC

THIS PARTIAL UNWIND AGREEMENT (this "**Agreement**") with respect to the Base Warrants Confirmation (as defined below) and the Additional Warrants Confirmation (as defined below) is made as of December 14, 2020 between Enphase Energy, Inc. (the "**Company**") and Credit Suisse Capital LLC ("**Dealer**"), acting through its agent Credit Suisse Securities (USA) LLC ("**Agent**").

WHEREAS, the Company and Dealer entered into (i) a Base Warrants confirmation, dated as of May 30, 2019 (the "**Base Warrants Confirmation**") (ii) an Additional Warrants confirmation, dated as of June 4, 2019 (the "**Additional Warrants Confirmation**" and together with the Base Warrants Confirmation, the "**Warrants Confirmations**"), pursuant to which the Company issued to Dealer warrants to purchase shares of common stock of the Company (the "**Transactions**");

WHEREAS, the Company has requested, and Dealer has agreed, to unwind the Base Warrants Confirmation with respect to 1,283,644 Warrants (the "**Unwind Warrants**") underlying the Base Warrants Confirmation;

NOW, THEREFORE, in consideration of their mutual covenants herein contained, the parties hereto, intending to be legally bound, hereby mutually covenant and agree as follows:

1. Defined Terms. Any capitalized term not otherwise defined herein shall have the meaning set forth for such term in the Warrants Confirmations.

2. Partial Warrants Unwind. On the Delivery Date (as defined below), the Number of Warrants in the Base Warrants Confirmation shall be reduced by the number of Unwind Warrants, from 3,512,023 to 2,228,379.

3. [Reserved.]

4. Procedures for Partial Unwind. Pursuant to the terms of this Agreement, during the Hedge Unwind Period (as defined below) Dealer (or an affiliate of Dealer), for the account of Dealer, shall unwind a portion of its hedge of the Warrants underlying the Base Warrants Confirmation.

5. Delivery. On the first Scheduled Trading Day following the conclusion of the Hedge Unwind Period, or if such day is not a Currency Business Day, on the next Currency Business Day immediately following such day (the "**Delivery Date**"), the Company shall deliver to Dealer a number of Shares equal to an amount equal to the *product* of (i) the number of Unwind Warrants *multiplied by* (ii) the Cash Settlement Amount per Warrant in respect of such Hedge Unwind Period (as determined based on the grid attached as Exhibit A to this Agreement) *divided by* (iii) the VWAP Price (as defined on the attached Exhibit A to this Agreement). "**Hedge Unwind Period**" means December 15, 2020, subject to the immediately succeeding paragraph.

Notwithstanding anything to the contrary in this Agreement, if (i) the Scheduled Trading Day during any Hedge Unwind Period is a Disrupted Day (as defined in the Warrants Confirmations) or (ii) Dealer determines, based on the advice of counsel, that on any Scheduled Trading Day during the Hedge Unwind Period an extension of such Hedge Unwind Period is reasonably necessary or advisable to preserve Dealer's hedge unwind activity hereunder in light of existing liquidity conditions or to enable Dealer to effect sales of Shares in connection with its hedge unwind activity hereunder in a manner that would be in compliance with applicable legal, regulatory or self-regulatory requirements, or with related policies and procedures applicable to Dealer, then the Daily Price for such Scheduled Trading Day(s) shall be the volume-weighted average price per Share on such Scheduled Trading Day on the Exchange, as determined by the Calculation Agent based on transactions in the Shares on such Scheduled Trading Day taking into account, if applicable, the nature and duration of such Market Disruption Event, and the number of Scheduled Trading Days and the Cash Settlement Amount per Warrant related to the Hedge Unwind Period shall be adjusted by the Calculation Agent to account for such disruption and/or extension.

6. Representations and Warranties of the Company. The Company represents and warrants to Dealer on the date hereof that:

the Company has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to the Company, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by the Company with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with;

(d) the Company's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law));

(e) each of the Company and its affiliates is not in possession of any material nonpublic information regarding the Company or its common stock;

(f) the Company (A) is capable of evaluating investment risks independently, both in general and with regard to all transactions and investment strategies involving a security or securities; (B) will exercise independent judgment in evaluating the recommendations of any broker-dealer or its associated persons, unless it has otherwise notified the broker- dealer in writing; and (C) has total assets of at least $50 million;

(g) the Company is not entering into this Agreement to create actual or apparent trading activity in the Shares (or any security convertible into or exchangeable for the Shares) or to raise or depress or otherwise manipulate the price of the Shares (or any security convertible into or exchangeable for the Shares) or otherwise in violation of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**");

(h) the Company is an "eligible contract participant" (as such term is defined in Section 1a(18) of the Commodity Exchange Act, as amended, other than a person that is an eligible contract participant under Section 1a(18)(C) of the Commodity Exchange Act);

(i) the Company is not and, after consummation of the transactions contemplated hereby, will not be required to register as an "investment company" as such term is defined in the Investment Company Act of 1940, as amended;

(j) the Company agrees that on each day during the Hedge Unwind Period, the Shares shall not be subject to a "restricted period," as such term is defined in Regulation M under the Exchange Act and that the Company shall not engage in any "distribution," as such term is defined in Regulation M under the Exchange Act, other than a distribution meeting the requirements of the exceptions set forth in sections 101(b)(10) and 102(b)(7) of Regulation M under the Exchange Act, until the second Exchange Business Day immediately following the last day of the Hedge Unwind Period;

(k) the Company agrees that on each Scheduled Trading Day during the Hedge Unwind Period, neither the Company nor any "affiliated purchaser" (as defined in Rule 10b-18 of the Exchange Act) shall directly or indirectly (including, without limitation, by means of any cash-settled or other derivative instrument) purchase, offer to purchase, place any bid or limit order that would effect a purchase of, or commence any tender offer relating to, any Shares (or an equivalent interest, including a unit of beneficial interest in a trust or limited partnership or a depository share); and

(l) the Company agrees that prior to the date hereof it has notified Dealer of the total number of Shares, if any, purchased by or for the Company or any of its affiliated purchasers in Rule 10b-18 purchases of blocks (all as defined in Rule 10b-18 under the Exchange Act) pursuant to the once-a-week block exception set forth in Rule 10b-18(b)(4) during the four full calendar weeks immediately preceding the date hereof.

7. Representations and Warranties of Dealer. Dealer represents and warrants to the Company on the date hereof that:
Dealer has the power to execute this Agreement and any other documentation relating to this Agreement to which it is a party, to deliver this Agreement and to perform its obligations under this Agreement and has taken all necessary action to authorize such execution, delivery and performance;

(b) such execution, delivery and performance do not violate or conflict with any law applicable to Dealer, any provision of its constitutional documents, any order or judgment of any court or other agency of government applicable to it or any of its assets or any contractual restriction binding on or affecting it or any of its assets;

(c) all governmental and other consents that are required to have been obtained by Dealer with respect to this Agreement have been obtained and are in full force and effect and all conditions of any such consents have been complied with; and

(d) Dealer's obligations under this Agreement constitute its legal, valid and binding obligations, enforceable in accordance with its terms (subject to applicable bankruptcy, reorganization, insolvency, moratorium or similar laws affecting creditors' rights generally and subject, as to enforceability, to equitable principles of general application (regardless of whether enforcement is sought in a proceeding in equity or at law)).

8. Account for Payment to the Company:

To be advised.

9. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of New York (without reference to choice of law doctrine).

10. No Other Changes. Except as expressly set forth herein, all of the terms and conditions of the Warrants Confirmations shall remain in full force and effect and are hereby confirmed in all respects.

11. Counterparts. This Agreement may be signed in any number of counterparts, each of which shall be an original, with the same effect as if all of the signatures thereto and hereto were upon the same instrument.

12. No Reliance, etc. The Company hereby confirms that it has relied on the advice of its own counsel and other advisors (to the extent it deems appropriate) with respect to any legal, tax, accounting, or regulatory consequences of this Agreement, that it has not relied on Dealer or its affiliates in any respect in connection therewith, and that it will not hold Dealer or its affiliates accountable for any such consequences.

13. Acknowledgments and Agreements. The Company acknowledges and agrees that (i) the Company does not have, and shall not attempt to exercise, any influence over how, when or whether to effect sales of the Shares by Dealer (or its agent or affiliate) in connection with this Agreement and (ii) the Company is entering into this Agreement in good faith and not as part of a plan or scheme to evade compliance with federal securities laws including, without limitation, Rule 10b-5 promulgated under the Securities Exchange Act of 1934, as amended. For the avoidance of doubt, the Company agrees that Section 13.2 of the Equity Definitions remains applicable with respect to any Hedge Positions and Hedging Activities of Dealer in respect of the Transactions subject to the Warrants Confirmations and the transactions contemplated by this Agreement.

14. Unwind Warrants. Except for the delivery pursuant to this Agreement, the parties agree that no payments or deliveries shall become due or payable and no exercises shall occur, with respect to the Unwind Warrants; *provided, however*, that until the last day of the Hedge Unwind Period, the "Cash Settlement Amount per Warrant" shall remain subject to adjustment by the Calculation Agent in a manner consistent with, and for the same events that would result in an adjustment to the terms of, the Warrants Confirmations.

15. U.S. Stay Regulations. The parties agree that (i) to the extent that prior to the date hereof both parties have adhered to the 2018 ISDA U.S. Resolution Stay Protocol (the "**Protocol**"), the terms of the Protocol are incorporated into and form a part of this Agreement, and for such purposes this Agreement shall be deemed a Protocol Covered Agreement and each party shall be deemed to have the same status as "Regulated Entity" and/or "Adhering Party" as applicable to it under the Protocol; (ii) to the extent that prior to the date hereof the parties have executed a separate agreement the effect of which is to amend the qualified financial contracts between them to conform with the requirements of the QFC Stay Rules (the "Bilateral Agreement"), the terms of the Bilateral Agreement are incorporated into and form a part of this Agreement and each party shall be deemed to have the status of "Covered Entity" or "Counterparty Entity" (or other similar term) as applicable to it under the Bilateral Agreement; or (iii) if clause (i) and clause (ii) do not apply, the terms of Section 1 and Section 2 and the related defined terms (together, the "**Bilateral Terms**") of the form of bilateral template entitled "Full- Length Omnibus (for use between U.S. G-SIBs and Corporate Groups)" published by ISDA on November 2, 2018 (currently available on the 2018 ISDA U.S. Resolution Stay Protocol page at www.isda.org and, a copy of which is available upon request), the effect of which is to amend the qualified financial contracts between the parties thereto to conform with the requirements of the QFC Stay Rules, are hereby incorporated into and form a part of this Agreement, and for such purposes this Agreement shall be deemed a "Covered Agreement," Dealer shall be deemed a "Covered Entity" and the Company shall be deemed a "Counterparty Entity." In the event that, after the date of this Agreement, both parties hereto become adhering parties to the Protocol, the terms of the Protocol

will replace the terms of this paragraph. In the event of any inconsistencies between this Agreement and the terms of the Protocol, the Bilateral Agreement or the Bilateral Terms (each, the "QFC Stay Terms"), as applicable, the QFC Stay Terms will govern. Terms used in this paragraph without definition shall have the meanings assigned to them under the QFC Stay Rules. For purposes of this paragraph, references to "this Agreement" include any related credit enhancements entered into between the parties or provided by one to the other. In addition, the parties agree that the terms of this paragraph shall be incorporated into any related covered affiliate credit enhancements, with all references to Dealer replaced by references to the covered affiliate support provider.

"**QFC Stay Rules**" means the regulations codified at 12 C.F.R. 252.2, 252.81–8, 12 C.F.R. 382.1-7 and 12 C.F.R. 47.1-8, which, subject to limited exceptions, require an express recognition of the stay-and-transfer powers of the FDIC under the Federal Deposit Insurance Act and the Orderly Liquidation Authority under Title II of the Dodd Frank Wall Street Reform and Consumer Protection Act and the override of default rights related directly or indirectly to the entry of an affiliate into certain insolvency proceedings and any restrictions on the transfer of any covered affiliate credit enhancements.

16. Role of Agent. Agent has no obligation hereunder, by guaranty, endorsement or otherwise, with respect to performance of Dealer's obligations hereunder or under the Transactions.

IN WITNESS WHEREOF, the parties have executed this AGREEMENT the day and the year first above written.

ENPHASE ENERGY, INC.
By: /S/ Eric Branderiz
Authorized Signatory
Title: Chief Financial Officer

CREDIT SUISSE CAPITAL LLC
By: /S/ Bik Kwan Chung
Authorized Signatory

By: /S/ Erica Hryniuk
Authorized Signatory

CREDIT SUISSE SECURITIES (USA) LLC, AS AGENT
By: /S/ Bik Kwan Chung
Authorized Signatory

EXHIBIT A

VWAP Price	Cash Settlement Amount per Warrant
$135.00	$113.77
$136.00	$114.77
$137.00	$115.77
$138.00	$116.77
$139.00	$117.77
$140.00	$118.77
$141.00	$119.77
$142.00	$120.77
$143.00	$121.77
$144.00	$122.77
$145.00	$123.77
$146.00	$124.77
$147.00	$125.77
$148.00	$126.77
$149.00	$127.77
$150.00	$128.77

If the VWAP Price is not specified on the grid above, the Cash Settlement Amount per Warrant shall be determined based on a straight-line interpolation between the VWAP Prices or extrapolation from the VWAP Prices (as the case may be) specified on the grid above.

"**VWAP Price**" means the arithmetic average of the Daily Prices for all Scheduled Trading Days in the Hedge Unwind Period.

"**Daily Price**" for any Scheduled Trading Day means the per Share volume-weighted average price as displayed under the heading "Bloomberg VWAP" on Bloomberg page ENPH <equity> AQR (or any successor thereto) in respect of the period from 9:30 a.m. to 4:00 p.m. (New York City time) on such Scheduled Trading Day (or if such volume-weighted average price is unavailable or manifestly incorrect, the market value of one Share on such Scheduled Trading Day, as determined by the Calculation Agent).

Exhibit 21.1

SUBSIDIARIES OF REGISTRANT

Enphase Energy Australia Pty. Ltd., an Australian corporation.
Enphase Energy Canada, Inc., a Canadian corporation.
Enphase Energy S.A.S., a French corporation.
Enphase Energy NL B.V., a Dutch private limited liability company.
Enphase Energy New Zealand Limited, a New Zealand corporation.
Enphase Energy International LLC, a Delaware corporation.
Enphase Solar Energy India Pvt. Limited, an Indian private limited company.
Enphase Energy Mexico, S. DE R.L. DE C.V., a Mexican corporation.
Enphase Energy S.r.l., an Italian corporation.
Enphase Energy Canada Holdings, Inc., a Canadian corporation.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-230716, 333-228775, 333-228774, 333-224101, 333-216886, 333-209315 and 333-195694 on Form S-3 and Registration Statement Nos. 333-230314, 333-224103, 333-238997, 333-210037, 333-202630, 333-194749, 333-187057, 333-181382 and 333-216986 on Form S-8 of our reports dated February 12, 2021, relating to the financial statements of Enphase Energy, Inc. and the effectiveness of Enphase Energy, Inc.'s internal control over financial reporting appearing in this Annual Report on Form 10-K for the year ended December 31, 2020.

/s/ DELOITTE & TOUCHE LLP

San Francisco, California

February 12, 2021

Exhibit 31.1

CERTIFICATION

I, Badrinarayanan Kothandaraman, certify that:

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

Date: February 12, 2021

/s/ BADRINARAYANAN KOTHANDARAMAN
Badrinarayanan Kothandaraman
President and Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION

I, Eric Branderiz, certify that:

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

Date: February 12, 2021

/s/ ERIC BRANDERIZ
Eric Branderiz
Executive Vice President and Chief Financial Officer
(Principal Financial Officer)

Exhibit 32.1

CERTIFICATION

Pursuant to the requirement set forth in Rule 13a-14(b) of the Securities Exchange Act of 1934, as amended, (the "Exchange Act") and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350), Badrinarayanan Kothandaraman, President and Chief Executive Officer of Enphase Energy, Inc. (the "Company"), and Eric Branderiz, Executive Vice President and Chief Financial Officer of the Company, each hereby certifies that, to the best of his or her knowledge:

1. The Company's Annual Report on Form 10-K for the period ended December 31, 2020, to which this Certification is attached as Exhibit 32.1 (the "Periodic Report"), fully complies with the requirements of Section 13(a) or Section 15(d) of the Exchange Act; and

2. The information contained in the Periodic Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

In Witness Whereof, the undersigned have set their hands hereto as of the 12th day of February, 2021.

/s/ BADRINARAYANAN KOTHANDARAMAN	/s/ ERIC BRANDERIZ
Badrinarayanan Kothandaraman	Eric Branderiz
President and Chief Executive Officer	Executive Vice President and Chief Financial Officer

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Enphase Energy, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.