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 001-38598

BLOOM ENERGY CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**77-0565408**
(Sate or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
4353 North First Street, San Jose, California	**95134**
(Address of principal executive offices)	(Zip Code)

(408) 543-1500

(Registrant's telephone number, including area code)

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

Title of Each Class[(1)]	Trading Symbol	Name of each exchange on which registered
Class A Common Stock, $0.0001 par value	BE	New York Stock Exchange

[(1)] Our Class B Common Stock is not registered but is convertible into shares of Class A Common Stock at the election of the holder.

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

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes ☐ No ☑

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

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

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

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

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

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

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

The aggregate market value of the registrant’s Class A common stock held by non-affiliates of the registrant was approximately $1.0 billion based upon the closing price of $10.88 per share of our Class A common stock on the New York Stock Exchange on June 30, 2020 (the last trading day of the registrant’s most recently completed second quarter). Shares of Class A common stock held by each executive officer, director and holder of 10% of more of the outstanding Class A common stock have been excluded in that such persons may be deemed to be affiliates. The determination of affiliate status if not necessarily a conclusive determination for other purposes.

The number of shares of the registrant’s common stock outstanding as of February 18, 2021 was as follows:

Class A Common Stock, $0.0001 par value 144,033,720 shares

Class B Common Stock, $0.0001 par value 27,799,886 shares

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant’s proxy statement for the 2021 Annual Meeting of Stockholders (the “2021 Proxy Statement”) are incorporated into Part III hereof. The 2021 Proxy Statement will be filed with the U.S. Securities and Exchange Commission ("SEC") within 120 days after the registrant’s year ended December 31, 2020.

Bloom Energy Corporation
Annual Report on Form 10-K for the Years Ended December 31, 2020
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Unless the context otherwise requires, the terms "we," "us," "our," "Bloom Energy," and the "Company" each refer to Bloom Energy Corporation and all of its subsidiaries.

SPECIAL NOTE ABOUT FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). All statements contained in this Annual Report on Form 10-K other than statements of historical fact, including statements regarding our future operating results and financial position, our business strategy and plans and our objectives for future operations, are forward-looking statements. The words “believe,” “may,” “will,” “estimate,” “continue,” “anticipate,” “predict,” “project,” “potential,” ”seek,” “intend,” “could,” “would,” “should,” “expect,” “plan” and similar expressions are intended to identify forward-looking statements.

Forward-looking statements in this Annual Report on Form 10-K include, but are not limited to, our plans and expectations regarding future financial results, including our expectations regarding our ability to be successful in new markets, including the hydrogen market, the impact of the COVID-19 pandemic, expected operating results, business strategies, the sufficiency of our cash and our liquidity, projected costs and cost reductions, development of new products and improvements to our existing products, the impact of recently adopted accounting pronouncements, our manufacturing capacity and manufacturing costs, the adequacy of our agreements with our suppliers, legislative actions and regulatory compliance, competitive position, management’s plans and objectives for future operations, our ability to obtain financing, our ability to comply with debt covenants or cure defaults, if any, our ability to repay our obligations as they come due, trends in average selling prices, the success of our customer financing arrangements, expected capital expenditures, warranty matters, outcomes of litigation, our exposure to foreign exchange, interest and credit risk, general business and economic conditions in our markets, industry trends, the impact of changes in government incentives, risks related to cybersecurity breaches, privacy and data security, the likelihood of any impairment of project assets, long-lived assets and investments, trends in revenue, cost of revenue and gross profit (loss), trends in operating expenses including research and development expense, sales and marketing expense and general and administrative expense and expectations regarding these expenses as a percentage of revenue, future deployment of our Bloom Energy Servers, expansion into new markets, our ability to expand our business with our existing customers, our ability to increase efficiency of our product, our ability to decrease the cost of our product, our ability to market out products successfully in connection with the global energy transition and shifting attitudes around climate change; our future operating results and financial position, our business strategy and plans and our objectives for future operations.

You should not rely upon forward-looking statements as predictions of future events. We have based the forward-looking statements contained in this Annual Report on Form 10-K primarily on our current expectations and projections about future events and trends that we believe may affect our business, financial condition, operating results and prospects. The outcome of the events described in these forward-looking statements is subject to risks, uncertainties and other factors including those discussed in Part I, Item 1A, Risk Factors and elsewhere in this Annual Report on Form 10-K. Moreover, we operate in a very competitive and rapidly changing environment. New risks and uncertainties emerge from time to time and it is not possible for us to predict all risks and uncertainties or the extent to which any factor or combination of factors may cause actual results to differ materially from those contained in any forward-looking statements we may make in this Annual Report on Form 10-K. We cannot assure you that the results, events and circumstances reflected in the forward-looking statements will be achieved or occur. Actual results, events or circumstances could differ materially and adversely from those described or anticipated in the forward-looking statements.

The forward-looking statements made in this Annual Report on Form 10-K relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statements made in this Annual Report on Form 10-K to reflect events or circumstances after the date of this Annual Report on Form 10-K or to reflect new information or the occurrence of unanticipated events, except as required by law. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements.

Our actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of many factors including those discussed under Part I, Item 1A, Risk Factors and elsewhere in this Annual Report on Form 10-K.

Part I

ITEM 1 - BUSINESS

Overview

Bloom Energy created the first large-scale, commercially viable solid oxide fuel-cell based power generation platform that provides clean and resilient power to businesses, essential services, and critical infrastructure. Our technology, invented in the United States, is the most advanced thermal electric generation technology on the market today. Our fuel-flexible Bloom Energy Servers can use biogas and hydrogen, in addition to natural gas, to create electricity at significantly higher efficiencies than traditional, combustion-based resources. In addition, our fuel cell technology can be used to create hydrogen, which is increasingly recognized as a critically important tool necessary for the full decarbonization of the energy economy. Our enterprise customers are among the largest multi-national corporations who are leaders in adopting new technologies. We also have strong relationships with some of the largest utility companies in the United States and the Republic of Korea.

At Bloom, we look forward to a 100% zero-carbon future, and our fuel-flexible technology offers one of the most reliable electricity solutions for a world facing unacceptable levels of power disruptions. Our resilient platform has kept electricity on for our customers through hurricanes, earthquakes, forest fires, extreme heat and grid failures. Unlike traditional combustion power generation, our platform is community-friendly and designed to create little-to-no harmful air pollutants. We have made tremendous progress making renewable fuel production a reality through our biogas, hydrogen and electrolyzer programs, and we believe that we are well-positioned to be a core platform and a fixture in the new energy paradigm.

Our team has decades of experience in the various specialized disciplines and systems engineering concepts embedded in our technology. We have 270 issued patents in the United States and 129 issued patents internationally as of December 31, 2020.

The United States is currently our biggest market and installed base of Bloom Energy Servers. Some of our largest customers in the United States include AT&T, Caltech, Delmarva Power & Light Company, Equinix, The Home Depot, Kaiser Permanente, and The Wonderful Company. We also work with a number of U.S. financing partners, who purchase our systems and deploy the systems at end-customers' facilities in order to provide the electricity as a service.

Outside of the United States, the Republic of Korea is a world leader in the deployment of fuel cells for utility-scale electric power generation, with approximately 550 megawatts deployed there. We entered this market with a first deployment of an 8.35 megawatts Bloom Energy Server solution for a Korean utility that began commercial operation in 2018, and Republic of Korea now represents our second-largest market, with more than 200 megawatts of Bloom Energy Servers under contract. SK Engineering and Construction ("SK E&C"), a subsidiary of the SK Group, serves as the distributor of our systems in the Republic of Korea. We are also operating smaller deployments in India and Japan with commercial customers and these markets are still developing.

Industry Background

There are numerous challenges facing the traditional system for producing and delivering electricity. We believe these challenges will be the foundation of a transformation in how electricity is produced, delivered, and consumed. We believe this transformation will be similar to the seismic shifts seen in the computer and telecommunications industries, where centralized mainframe computing and landline telephone systems' ultimately gave way to the ubiquitous and highly personalized distributed technologies seen today, as well as the reimagining of business processes, culture, and customer experiences to meet changing business and market requirements in the digital age.

Resilience is now a strategic imperative. The rising frequency and intensity of natural disasters and extreme weather in recent years underscores a critical need for greater grid resilience. 2020 was a year characterized by unpredictability. In the United States, as hurricanes, winter storms, and fires swept the country, the year saw the single greatest number of billion-dollar natural disasters since the National Oceanic and Atmospheric Administration began tallying disaster costs. Natural disasters in 2020 resulted in $95 billion in damages, and resulted in widespread power outages that left individuals and businesses in the dark for days, and even weeks, on end. These climate threats are compounded by an increasing concern over the threat of cyber-attack and physical sabotage to the centralized grid infrastructure. Stakeholders across industries grapple with the question of how to prepare for more intense natural disasters, while still maintaining course toward achieving their climate targets. This has elevated the discussion around the essential role that distributed generation and microgrids can play in improving the resilience of both businesses and the grid. As outages increase, businesses are considering the "cost of not having power" instead of just the "cost of power." Energy resilience is becoming an issue business leaders can no longer afford to neglect – both from a strategic and cost perspective. In a climate change era, power availability and quality concerns are now reaching a company's executive leadership team and their board of directors, no matter the industry.

Rise in centralized capacity constraints. With millions of people still working from home due to the COVID-19 pandemic, extreme temperatures on the rise, and growing electric vehicle fleets that are only expected to increase in use over the coming decade, the centralized grid is challenged to meet the energy needs of businesses and customers. It is one of the many reasons why microgrids, localized energy systems that can operate alongside a main grid or disconnect and operate autonomously, are playing an increasingly important role, providing a critical, twenty-four hours a day and seven days a week ("24x7"), always-on energy solution, powering critical infrastructure, offsetting demand on the grid, and supplying power to the grid when it is most needed.

Increasing focus on reducing harmful local emissions. Air pollution is the fifth leading risk factor for mortality worldwide. Indeed, calculations of the economic and health benefits associated with reducing nitrogen oxide and particulate matter emissions have been found to exceed the economic and health benefits of reducing carbon emissions. And, unfortunately, the COVID-19 pandemic has only further shed light on these detrimental health impacts. Recent studies have linked long-term exposure to air pollution and COVID-19 death rates. They have also found that, nationwide, low-income communities of color are exposed to significantly higher levels of pollution, experiencing higher levels of lung disease and other ailments as a result. Policymakers are rightly increasing the emphasis on reducing such harmful local emissions as they consider the adoption of renewable portfolio standards or mandated targets for low- or zero-carbon power generation.

Hydrogen is key to a zero-carbon future. Hydrogen will be a critical foundation for the energy industry of the future, a truly clean alternative for both natural gas and transportation fuels. Hydrogen's unique advantages - high energy density, zero greenhouse gas emissions from consumption, and ease of storage and transportation – make it an especially attractive investment opportunity for those interested in a zero-carbon energy mix. Given the well-documented challenges that utilities and grid operators have faced as they integrate increasingly intermittent renewable resources on the grid, predictable round-the-clock hydrogen power will be an invaluable resource as more grids move towards a truly zero-carbon resource mix. The key limiting factor in the use of hydrogen, which does not exist in nature as a separate molecule, is that it cannot be mined, extracted or otherwise produced in its desired state without a manufacturing process. As both transportation and the electricity sector transition to a zero-carbon future, there will thus be increasing demand for both technologies that can efficiently generate power using hydrogen, and for large-scale electrolysis or carbon capture technology that can produce clean hydrogen at scale.

Lack of access to affordable and reliable electricity in developing countries. In developing countries, the lack of adequate capital for upfront investment presents a significant barrier to the development of the type of resilient centralized grid system that modern life demands. However, those parts of the world that currently lack widespread access to electricity are also in a position to develop generation and delivery infrastructure that avoids the weaknesses and deficiencies that centralized systems in the United States and other industrialized countries have begun to show. We believe these countries are likely to develop hybrid solutions, consisting of both centralized and distributed electrical power infrastructure. Emphasizing the role of smaller, distributed resources in these systems can help accelerate the availability of power, and provide greater reliability to consumers.

Our Solution

The Bloom Energy Server delivers reliable, resilient, clean, and affordable energy, particularly in areas of high electricity costs, through its advanced distributed power generation system that is a customizable source of always-on, 24x7 baseload power.

Our fuel-flexible technology, which can use biogas and hydrogen, in addition to natural gas, is one of the most reliable electricity solutions for a world facing rising frequency and intensity of natural disasters and extreme weather and unacceptable levels of power disruption. Our resilient platform has kept electricity on for our customers through hurricanes, earthquakes, forest fires, extreme heat and grid failures, while uniquely addressing both the causes and consequences of climate change - optimizing air quality, water, land-use and resilience benefits for you and the communities you serve.

We believe we are uniquely positioned for the hydrogen future of tomorrow. The flexibility of our platform provides the capability to operate on hydrogen and a near-term commitment to scalable and cost-effective hydrogen solutions. Our scalable design is intended to enable both small- and large-scale solutions for both the power generation and transportation industry.

The Bloom Energy Server is based on our proprietary solid oxide fuel cell technology, which converts fuel into electricity through an electrochemical process without combustion. The primary input to the system is standard low-pressure natural gas, biogas, or hydrogen. The high-quality electrical output of our Energy Server can be connected to the customer's main electrical feed, thereby avoiding the transmission and distribution losses associated with a centralized grid system. Each Bloom Energy Server is modular and composed of independent 50 kilowatt power modules. A typical configuration includes multiple power modules in a single Energy Server and can produce up to 300 kilowatts of power in a footprint roughly equivalent to that of half a standard 30-foot shipping container. Any number of these Energy Server systems can be clustered together in various configurations to form solutions from hundreds of kilowatts to many tens of megawatts. The Bloom Energy Server can be easily integrated into community environments due to its aesthetically attractive design, compact space requirement, minimal noise profile, and lack of local air pollutants.

Our Value Proposition

Our value proposition has four key elements, which allow us to deliver a better electron: resiliency, sustainability, predictability and an energy platform. We seek to provide a complete, integrated “behind-the-meter” solution including installation, equipment, service, maintenance and, in limited cases, bundled fuel. The four elements of our value proposition emphasize those areas where there is a strong customer need and where we believe we can deliver superior performance.

Resiliency. Our Energy Servers avoid the vulnerabilities of conventional transmission and distribution lines by generating power on-site where the electricity is consumed. The system operates at very high availability due to its modular and fault-tolerant design, which includes multiple independent power generation modules that can be hot-swapped. Unlike traditional combustion generation, Bloom Energy Servers can be serviced and maintained without powering down the system. Importantly, our systems utilize the existing natural gas infrastructure, which is a redundant underground mesh network, intended to provide for extremely high fuel availability that is protected from the natural disruptions that affect the power grid.

Sustainability. In operation, our Energy Servers can uniquely address both the causes and consequences of climate change. Our projects lower carbon emissions by displacing less-efficient fossil fuel generation on the grid. We improve air quality, including in vulnerable communities, by generating electricity without combustion, offsetting combustion from grid resources as well as eliminating the need for dirtier diesel backup power solutions. Our microgrid deployments provide customers with critical resilience to grid instability resulting from climate-related extreme weather events. Our products achieve this while consuming no water during operation, with optimized land use as a result of our high power density.

We are focused on product innovation, including the continued reduction of carbon emissions from our products, and we are engaged in multiple efforts to align our product roadmap with a zero-carbon trajectory. Already we are developing new applications and market opportunities in sectors with dirtier grids and higher marginal emissions displacement. We are focused on scaling use of renewable natural gas (“RNG”) – which is derived from biogas produced from decomposing organic waste from landfills, agricultural waste, and wastewater from treatment facilities – as fuel for our Energy Servers and building capacity within the market to further broader adoption. RNG is a biogas that has been upgraded to a quality similar to fossil natural gas and has a methane concentration of 90% or greater.

Additionally, we are pushing technology and business model boundaries to pioneer carbon capture and utilization & storage potential. Because carbon and nitrogen are not designed to mix in our Energy Servers, it is both feasible and cost-effective to capture carbon-dioxide emissions, which can be stored in underground geologic formations or utilized in new products or processes. Finally, our research and development efforts continue to focus on preparing our Energy Servers to utilize renewable hydrogen fuel, a 100% clean fuel, which is produced by breaking down water into hydrogen and oxygen using electrolysis. No new greenhouse gases should be produced when Energy Servers run on hydrogen, and using excess renewable capacity to create hydrogen would also help support further renewable adoption, compounding emissions benefits.

We have announced applications and partnerships that leverage our platform in innovative ways. In 2020, we announced our intention to enter the commercial hydrogen market by introducing hydrogen-powered fuel cells and electrolyzers that produce renewable hydrogen. These products are intended to be first introduced to the South Korean market in 2021 through an expanded partnership with SK E&C. In November 2020, we won a competitive request in the Republic of Korea, with SK E&C, for a proposal under the RE100 global renewable energy initiative to supply 1.8 megawatts of hydrogen-powered fuel cells through a multi-stage deployment from late 2021 into 2022. The fuel cells are intended to be the cornerstone of a microgrid that also includes onsite solar and battery storage to an industrial complex. At the end of 2020, we shipped a 100 kilowatts hydrogen-powered Energy Server to the Republic of Korea as part of a pilot project in 2021.

Also in 2020, we forged a partnership with Samsung Heavy Industries to design and develop fuel cell-powered ships that will help us realize a vision of clean power for ships and a more sustainable marine shipping industry. With our distributed, always-on, non-combustion process of generating clean electricity, we are working every day to reduce emissions, build resilience and promote sustainable communities.

Predictability. In contrast to the rising and unpredictable cost outlook for grid electricity, we offer our customers the ability to lock in cost for electric power over the long-term. Unlike the grid price of electricity, which reflects the cost to maintain and update the entire transmission and distribution system, our price to our customers is based solely on their individual project. In the regions where the majority of our Energy Servers are deployed, our solution typically provides electricity to our customers at a cost that is competitive with traditional grid power prices. In addition, our solution provides greater cost predictability versus rising grid prices. Whereas grid prices are regulated and subject to frequent change based on the utility's underlying costs, customers can contract with us for a known price in each year of their contract. Moreover, we provide customers with a solution that offers all of the fixed equipment and maintenance costs for the life of the contract.

Our Energy Servers deliver AlwaysOn, 24x7 baseload power with very high availability of power, mission-critical reliability and grid-independent capabilities. The Bloom Energy Server can be configured to eliminate the need for traditional backup power equipment such as diesel generators, batteries and uninterruptible power systems by providing primary power to a facility that seamlessly continues to deliver even when the grid fails. Our Energy Servers are designed to offer consistent power quality supply for mission critical operations that require a high level of electrical reliability and uninterrupted availability, such as data centers, hospital, and biotechnology. This is particularly important as society becomes more reliant on digital systems and sophisticated operational technology. Power quality issues can cause equipment failure, downtime, data corruption, and increased operational costs

Further, our Energy Servers were designed with 'quick time to power' as an important value proposition for customers that need to ramp up power quickly, providing peace of mind to businesses and communities that the power they need will be there when they need it most. They are designed to be deployed in a matter of days and are ideal for emergency management scenarios. The modularity, quick deployment, ease of installation, and small footprint of our Energy Servers facilitate ease of accessibility to power.

Energy Platform. Our Energy Servers are designed as a platform that can be customized to the needs of each customer to deliver a superior level of reliability, resiliency, sustainability and predictability. The fuel-flexibility of our platform provides an ability today to run on natural gas, biogas and hydrogen blends, and a near-term commitment to scalable and cost-effective 100% hydrogen solutions and zero emission power generation of the future. Our flexible and modular platform approach allows for personalization at the time of equipment commissioning and a pathway to upgrade existing systems to align with the sustainability goals of our customers over time.

Our Energy Server can be enhanced with AlwaysON Microgrid components to deliver higher levels of reliability and grid-independent operation. Customers can optimize their solution for mission-critical level, power quality solutions, such as in a data center application, to more basic outage protection, such as for a retail store. Customers also have a variety of choices for financing vehicles, contract duration, pricing schedules and fuel procurement.

Technology

The solid-oxide fuel cells in our Energy Servers convert fuel, such as natural gas, biogas, or hydrogen, into electricity through an electrochemical reaction without burning the fuel. Each individual fuel cell is composed of three layers: an electrolyte sandwiched between a cathode and an anode. The electrolyte is a solid ceramic material, and the anode and cathode are made from inks that coat the electrolyte. Unlike other types of fuel cells, no precious metals, corrosive acids or molten materials are required. These fuel cells are the foundational building block of our Energy Server. We combine a number of the fuel cells into a stack, and then combine a number of the stacks to form 50 kW power modules. Any number of these 50 kW power modules can be arranged in various configurations to form solutions that provide hundreds of kilowatts to many tens of megawatts of power. Regardless of the starting size of a solution, further scaling can be accomplished after the initial solution deployment, creating ongoing flexibility and scalability for the customer.

In a primary power configuration, our Energy Server is interconnected to the customer's electric grid connection. By regulation, our Energy Server must be able to stop exporting power in case of a grid outage. However, Energy Servers can be upgraded to AlwaysON Microgrid solutions as add-on options at any point in time to enable continuous operation in the event of grid interruption. When in an always-on configuration, the Energy Server continually powers critical loads while the grid serves as a backup. Should there be a disruption to grid power, the critical load, which is already receiving primary power from the Energy Server, experiences no disruption. The combination of always-on power from our Energy Server, utilizing the natural gas infrastructure, and secondary feed from the independent electric grid is meant to result in a highly available and reliable solution.

Research and Development

Our research and development organization has addressed complex applied materials, processing and packaging challenges through the invention of many proprietary advanced material science solutions. Over more than a decade, Bloom has built a world-class team of solid oxide fuel cell scientists and technology experts. Our team comprises technologists with degrees in Materials Science, Electrical Engineering, Chemical Engineering, Mechanical Engineering, Civil Engineering and Nuclear Engineering, and includes 46 PhDs. This team has continued to develop innovative technology improvements for our Energy Servers. Since our first-generation technology, we have reduced the costs and increased the output of our systems through the next generation of our Energy Servers, and increased the life of our fuel cells by over two and half times.

We have invested and will continue to invest a significant amount in research and development. See our discussion of research and development expenses in Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations* of this Annual Report on Form 10-K for further information.

Competition

We primarily compete against the utility grid based on superior reliability, resiliency, cost savings, predictability and sustainability, all of which can be customized to the needs of individual customers. Customers do not currently have alternative solutions that provide all of these important attributes in one platform. As we are able to drive our costs down, we expect our economic value proposition to continue to improve relative to grid power in additional markets.

Other sources of competition – and the attributes that differentiate us – include:

- *Intermittent solar power.* Solar power is intermittent and best suited for addressing day-time peak power requirements, while Bloom provides stable baseload generation. Storage technology is intended to address the intermittency of solar power, but the low power density of the combined technologies makes the solution impractical for most commercial and industrial customers looking to offset a significant amount of power. As a point of comparison, our Energy Servers provide the same power output in $1/125^{th}$ of the footprint of a solar installation, allowing us to serve far more of a customer's energy requirements based on a customer's available and typically limited space.

- *Intermittent wind power.* Power from wind turbines is intermittent, similar to solar power. Typically wind power is deployed for utility-side, grid-scale applications in remote locations but not as a customer-side, distributed power alternative due to prohibitive space requirements and permitting issues. Remote wind farms feeding into the grid do not help end customers avoid the vulnerabilities and costs of the transmission and distribution system.

- *Traditional co-generation systems.* These systems deliver a combination of electric power and heat from combustion sources. We believe we compete favorably because of our superior electrical efficiencies, significantly less complex deployment (avoiding heating systems integration), better performance on emissions and noise, superior availability, aesthetic appeal and reliability. Unlike these systems, which depend on the full and concurrent utilization of waste heat to achieve high efficiencies, Bloom can provide highly efficient systems to any customer based solely on their power needs.

- *Traditional backup equipment.* As our Energy Servers deliver always-on power, they can obviate the need for traditional backup equipment such as diesel generators. By providing combustion-free power 24x7 rather than just as backup, we generally offer a better integrated, more reliable, cleaner and cost-effective solution than these grid-plus-backup systems.

- *Other commercially available fuel cells.* Basic fuel cell technology is over 100 years old. Our Energy Server uses advanced solid oxide fuel cell technology which produces electricity directly from oxidizing a fuel. The type of solid oxide fuel cell we compete against has a solid oxide or ceramic electrolyte. The advantages of our technology include higher efficiency, long-term stability, elimination of the need for an external fuel reformer, ability to use biogas, natural gas, or hydrogen as a fuel, low emissions and relatively low cost. There are a variety of fuel cell technologies, characterized by their electrolyte material, including:

    - *Proton exchange membrane fuel cells* ("PEM"). PEM fuel cells typically are used in onboard transportation applications, such as powering forklifts, because of their compactness and ability for quick starts and stops. However, PEM technology requires an expensive platinum catalyst which is susceptible to poisoning by trace amounts of impurities in the fuel or exhaust products. These fuel cells require hydrogen as an input source of energy or an external fuel reformer, which adds to the cost, complexity and electrical inefficiency of the product. As a result, they are not an economically viable option for stationary baseload power generation.

- *Molten carbonate fuel cells* ("MCFC"). MCFCs are high-temperature fuel cells that use an electrolyte composed of a molten carbonate salt mixture suspended in a porous, chemically inert ceramic matrix of beta-alumina solid electrolyte. The primary disadvantages of current MCFC technology are durability and lower electrical efficiency compared to solid oxide fuel cells. Current versions of the product are built for 300 kilowatt systems, and they are monolithic rather than modular. Smaller sizes are not economically viable. In many applications where the heat produced by these fuel cells is not commercially or internally useable continuously, mitigating the heat buildup also becomes a liability.

- *Phosphoric acid fuel cells* ("PAFC"). PAFCs are a type of fuel cell that uses liquid phosphoric acid as an electrolyte. Developed in the mid-1960s and field-tested since the 1970s, they were the first fuel cells to be commercialized. PAFCs have been used for stationary power generators with output in the 100 kilowatt to 400 kilowatt range. PAFCs are best suited to combined heat and power output applications which require carefully matching and constant monitoring of power and heat requirements, often making the technology difficult to implement. Further disadvantages include low power density and poor system output stability.

Intellectual Property

Intellectual property is an essential differentiator for our business, and we seek protection for our intellectual property whenever possible. We rely upon a combination of patents, copyrights, trade secrets, and trademark laws, along with employee and third-party non-disclosure agreements and other contractual restrictions to establish and protect our proprietary rights.

We have developed a significant patent portfolio to protect elements of our proprietary technology. As of December 31, 2020, we had 270 issued patents and 69 patent applications pending in the United States, and we had an international patent portfolio comprising 129 issued patents and 46 patent applications pending. Our U.S. patents are expected to expire between 2023 and 2039. While patents are an important element of our intellectual property strategy, our business as a whole is not dependent on any one patent or any single pending patent application.

We continually review our development efforts to assess the existence and patentability of new intellectual property. We pursue the registration of our domain names and trademarks and service marks in the United States and in some locations abroad. "Bloom Energy" and the "BE" logo are our registered trademarks in certain countries for use with Energy Servers and our other products. We also hold registered trademarks for, among others, "Bloom Box," "BloomConnect," "BloomEnergy," and "Energy Server" in certain countries. In an effort to protect our brand, as of December 31, 2020, we had eight registered trademarks in the United States, 40 registered trademarks in Australia, China, the European Union, India, Japan, Republic of Korea, Taiwan, the United Kingdom, and two pending applications in China.

When appropriate, we enforce our intellectual property rights against other parties. For more information about risks related to our intellectual property, please see the risk factors set forth under the caption Part I, Item 1A, *Risk Factors - Risks Related to Our Intellectual Property*.

Manufacturing Facilities

Our primary manufacturing facilities for the fuel cells and Energy Servers assembly are in Newark, Delaware, and Sunnyvale, California. The 224,409 square-foot manufacturing facility that we own in Newark was our first purpose-built Bloom Energy manufacturing center and was designed specifically for copy-exact duplication as we expand, which we believe will help us scale more efficiently. Our Newark facility includes an additional 50 acres available for factory expansion and/or the co-location of supplier plants. Additionally, we lease various manufacturing facilities in California. Our current lease for our principal Sunnyvale manufacturing facility expires in December 2023, and our current lease for our manufacturing facility in Mountain View expires in April 2021. The facility in Mountain View will be replaced by a new R&D and manufacturing facility in Fremont, California. Both of our two principal manufacturing facilities are powered by Bloom Energy Servers.

In 2020, we established a light-assembly facility in the Republic of Korea and are developing a local supplier ecosystem through a new joint venture with SK E&C. Operations began in early July 2020, and are limited in scope and capacity.

Please see Part I, Item 2, *Properties* for additional information regarding our facilities.

Corporate Citizenship in 2020

During the COVID-19 pandemic, our Energy Servers have been delivering power to facilities around the globe that are providing essential services. We have deployed more than 20,000 fuel cell modules since our first commercial shipments in 2009, sending power to hospitals, healthcare manufacturing facilities, biotechnology facilities, grocery stores, hardware stores, banks, telecom facilities, and other critical infrastructure applications. We have deployed microgrids to pop-up and field hospitals handling COVID-19 patient overflow through contracts with both the State of California and the private sector.

Early in the pandemic, as the United States faced a critical shortage of ventilators, a medical device used to treat respiratory failure in COVID-19 patients, we leveraged our expertise and capabilities in product end-of-life management to refurbish hundreds of out-of-service ventilators across the United States. We worked with state agencies and customers – many of which are hospitals and medical device companies – to identify supplies of unused, out-of-service ventilators for repair. To date, we have refurbished more than 1,300 ventilators across California, Delaware, and Pennsylvania.

In addition, as heat waves and wildfires engulfed California, we launched an initiative to export excess energy from our customers to the grid to provide relief to centralized capacity limitations in California.

Supply Chain

Our supply chain has been developed, since our founding, with a group of high-quality suppliers that support automotive, semiconductor and other traditional manufacturing organizations. The production of fuel cell systems requires rare earth elements, precious metals, scarce alloys and industrial commodities, Our operations require raw materials, and in certain cases, third-party services that require special manufacturing processes. We generally have multiple sources of supply for our raw materials and services except in cases where we have specialized technology and material property requirements. Our supply base is spread around many geographies in Asia, Europe and India, consisting of suppliers with multiple areas of expertise in compaction, sintering, brazing and dealing with specialty material manufacturing techniques. We responsibly source components like interconnects and balance of system components from various manufacturers on both a contracted and a purchase order basis. We have multi-year supply agreements with some of our supply partners for supply continuity and pricing stability. We are working with our suppliers and partners along all steps of the value chain to reduce costs by improving manufacturing technologies and expanding economies of scale.

Services

We provide operations and maintenance agreements ("O&M Agreements") for all of our Energy Servers, which are renewable at the election of the customer on an annual basis. The customer agrees to pay an ongoing service fee and in return we monitor, maintain and operate the Energy Servers systems on the customer's behalf. We currently service and maintain every installed Bloom Server worldwide.

As of December 31, 2020, our in-house service organization had 68 dedicated field service personnel distributed across multiple locations in both the United States and internationally. Our standard O&M Agreements include full remote monitoring and 24x7 operation of the systems as well as preventative maintenance, in terms of filter and adsorbents replacements and on-site part and periodic fuel cell module replacements.

Our two Remote Monitoring and Control Centers (“RMCC”) provide 24x7 coverage of every installed Bloom Energy Server worldwide. By situating our RMCC centers in the United States and India we are able to provide 24x7 coverage cost effectively and also provide a dual redundant system with either site able to operate continuously should an issue arise. Each Bloom Energy Server we ship includes instrumentation and a secure telemetry connection that enables either RMCC to monitor over 500 system performance parameters real time. This comprehensive monitoring capability enables the RMCC operators to have a detailed understanding of the internal operation of our power modules. Using proprietary, internally developed software, the RMCC operators can detect changes and override the onboard automated control systems to remotely adjust parameters to ensure the optimum system performance is maintained. In addition, we undertake advanced predictive analytics to identify potential issues before they arise and undertake adjustments prior to a failure occurring.

Our services organization also has a dedicated Repair & Overhaul ("R&O") facility, based in Delaware, in close proximity to our product manufacturing facility. This R&O facility undertakes full refurbishment of returned fuel cell modules with the capability to restore it to full power, efficiency and life with a less than three weeks turnaround.

Customer Financing

We assist our customers by providing innovative financing options that, in addition to aiding in customer purchases of our Energy Servers, provides us an expanded addressable customer base. We have developed multiple options for our customers who cannot purchase our Energy Servers on a direct purchase basis.

Under the ‘Traditional Lease’ option, a customer may lease one or more Energy Servers from a financial institution that purchases such Energy Servers. In most cases, the financial institution completes its purchase from us immediately after commissioning. We both facilitate this financing arrangement between the financial institution and the customer and provide ongoing operations and maintenance services for the Energy Servers (such arrangement, a "Traditional Lease").

Alternatively, a customer may enter into one of two major types of service contracts with us for the purchase of electricity generated by the Energy Servers. The first type of services contract has a fixed monthly payment component that is required regardless of the Energy Servers' performance, and in some cases includes a variable payment based on the Energy Servers' performance (a "Managed Services Agreement"). Managed Services Agreements are then financed pursuant to a sale-leaseback with a financial institution (a "Managed Services Financing"). The second type of services contract requires the customer to pay for each kilowatt-hour produced by the Energy Servers (a "PPA"). PPAs have been financed through tax equity partnerships, acquisition financings, and direct sales to investors (each, a "Portfolio Financing").

For additional information about our different financing options, please see Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations – Purchase and Lease Options*.

Sales, Marketing and Partnerships

We market our Energy Servers primarily through a single direct sales organization supported by project finance, business development, government affairs, legal and regulatory, and marketing teams. In addition to our direct sales team, we work with multiple partners to generate customer leads and develop projects.

We sell our Energy Server platform through a combination of direct and indirect sales channels. At present, most of our sales are through our direct sales force, which is segmented by vertical and type of account. A large part of our direct sales force is now focused on our expansion efforts in the United States and creating new opportunities internationally. We are also expanding our relationship with utilities. We have developed a network of transactional energy advisors that bring new opportunities and referrals to Bloom, which has been a valuable source of high quality leads.

We pursue relationships with other companies in areas where collaboration can produce product advancement and acceleration of entry into new markets. The objectives and goals of these relationships can include one or more of the following: technology exchange, joint sales and marketing, or access to new geographic markets. SK E&C in the Republic of Korea is an example of a distribution partner and we are seeking additional strategic partners to fuel our international expansion.

Sustainability

Bloom Energy Servers produce clean, reliable energy without combustion that provide greenhouse gas, air quality, water, land-use and resilience benefits for its customers and the communities it serves. The innovative solid oxide fuel cell platform technology offers modular and flexible solutions configurable to address both the causes and consequences of climate change.

We are driven by the promise of our contribution to the transformation and decarbonization of energy and transportation sectors globally. We are working to make our technology available across a growing list of applications including biogas, carbon capture, hydrogen, marine and microgrid projects critical to aligning with a two degree warming trajectory.

As a manufacturer, our commitment to sustainability is reflected not only through the impacts of our products in operation but also through our internal commitment to resource efficiency, responsible design, materials management and recycling. We endeavor to consistently increase our supply chain responsibility and approach to human capital management in ways that help us to continue to deliver products that add long-term societal value.

Permits and Approvals

Each Bloom Energy Server installation must be designed, constructed and operated in compliance with applicable federal, state, international and local regulations, codes, standards, guidelines, policies and laws. To operate our systems, we, our customers and our partners are required to obtain applicable permits and approvals from local authorities for the installation of Bloom Energy Servers and for the interconnection systems with the local electrical utility.

Government Policies and Incentives

There are varying policy frameworks across the United States and abroad designed to support and accelerate the adoption of clean and/or reliable distributed power generation technologies such as Bloom Energy Servers. These policy initiatives come in the form of tax incentives, cash grants, performance incentives, and/or specific gas or electric tariffs.

The U.S. federal government provides businesses with an Investment Tax Credit ("ITC") under Section 48 of the Internal Revenue Code, available to the owner of our Energy Server for systems purchased and placed into service. The credit is equal to 26% of expenditures for capital equipment and installation, and the credit for fuel cells is capped at $1,500 per 0.5 kilowatt of capacity. The credit will remain at 26% through 2022 and then step down to 22% in 2023. Under current law the credit is set to expire in 2024.

Our Energy Servers are currently installed at customer sites in ten states in the United States, each of which has its own enabling policy framework. Some states have utility procurement programs and/or renewable portfolio standards for which our technology is eligible. Our Energy Servers currently qualify for tax exemptions, incentives or other customer incentives in many states including California, New Jersey, Connecticut, Massachusetts, Rhode Island, Maryland and New York. These policy provisions are subject to change.

Although we generally are not regulated as a utility, existing and future federal, state, international and local government statutes and regulations concerning electricity heavily influence the market for our product and services. These statutes and regulations often relate to electricity pricing, net metering, incentives, taxation, competition with utilities and the interconnection of customer-owned electricity generation. Federal, state, international and local governments continuously modify these statutes and regulations. Governments, often acting through state utility or public service commissions, change and adopt different rates for commercial customers on a regular basis. These changes can have a positive or negative impact on our ability to deliver cost savings to customers for the purchase of electricity.

To operate our systems, we obtain interconnection agreements from the applicable local primary electricity and gas utilities. In almost all cases, interconnection agreements are standard form agreements that have been pre-approved by the local public utility commission or other regulatory body with jurisdiction over interconnection agreements. As such, no additional regulatory approvals are typically required once interconnection agreements are signed.

Product safety standards for stationary fuel cell generators have been established by the American National Standards Institute ("ANSI"). These standards are known as ANSI/CSA FC-1. Our products are designed to meet these standards. Further, we utilize the Underwriters' Laboratory, or UL, to certify compliance with these standards. Energy Server installation guidance is provided by *NFPA 853: Standard for the Installation of Stationary Fuel Cell Power Systems*. Installations at sites are carried out to meet the requirements of these standards.

Government Regulations

Our business is subject to a changing patchwork of environmental laws and regulations that prevail at the federal, state, regional, and local level as well as in those foreign jurisdictions in which we operate. Most existing environmental laws and regulations preceded the introduction of our innovative fuel cell technology and were adopted to apply to technologies existing at the time, namely large coal, oil, or gas-fired power plants. Currently, there is generally little guidance from these agencies on how certain environmental laws and regulations may or may not be applied to our technology. These laws can give rise to liability for administrative oversight costs, cleanup costs, property damage, bodily injury, fines, and penalties. Capital and operating expenses needed to comply with environmental laws and regulations can be significant, and violations may result in substantial fines and penalties or third-party damages. In addition, maintaining compliance with applicable environmental laws, such as the comprehensive Environmental Response, Compensation and Liability Act in the United States, requires significant time and management resources.

At the federal level, the Federal Energy Regulatory Commission ("FERC") has authority to regulate, under various federal energy regulatory laws, wholesale sales of electric energy, capacity, and ancillary services, and the delivery of natural gas in interstate commerce. Some of our tax equity partnerships in which we participate are subject to regulation under FERC with respect to market-based sales of electricity, which requires us to file notices and make other periodic filings with FERC, which increases our costs and subjects us to additional regulatory oversight.

Several states in which we currently operate, including California, require permits for emissions of hazardous air pollutants based on the quantity of emissions, most of which require permits only for quantities of emissions that are higher than those observed from our Energy Servers. Other states in which we operate, including New York, New Jersey, and North Carolina, have specific exemptions for fuel cells. In addition, our project with Delmarva Power & Light Company is subject to laws and regulations relating to electricity generation, transmission, and sale in Delaware and at the federal level.

Although we generally are not regulated as a utility, federal, state, and local government statutes and regulations concerning electricity heavily influence the market for our product and services. These statutes and regulations often relate to electricity pricing, net metering, incentives, taxation, and the rules surrounding the interconnection of customer-owned electricity generation for specific technologies. In the United States, governments frequently modify these statutes and regulations. Governments, often acting through state utility or public service commissions, change and adopt different requirements for utilities and rates for commercial customers on a regular basis.

For more information about the regulations to which we are subject and the risks to our operations related thereto, please see the risk factors set forth under the caption Part I, Item 1A, *Risk Factors - Risks Related to Legal Matters and Regulations*.

Backlog

The timing of delivery and installations of our products has a significant impact on the timing of the recognition of product and installation revenue. Many factors can cause a lag between the time a customer signs a purchase order and our recognition of product revenue. These factors include the number of Energy Servers installed per site, local permitting and utility requirements, environmental, health and safety requirements, weather, and customer facility construction schedules. Many of these factors are unpredictable and their resolution is often outside of our or our customers' control. Customers may also ask us to delay an installation for reasons unrelated to the foregoing, including delays in their obtaining financing. Further, due to unexpected delays, deployments may require unanticipated expenses to expedite delivery of materials or labor to ensure the installation meets the timing objectives. These unexpected delays and expenses can be exacerbated in periods in which we deliver and install a larger number of smaller projects. In addition, if even relatively short delays occur, there may be a significant shortfall between the revenue we expect to generate in a particular period and the revenue that we are able to recognize. For our installations, revenue and cost of revenue can fluctuate significantly on a periodic basis depending on the timing of acceptance and the type of financing used by the customer.

See Part II, Item 7, *Management's Discussion & Analysis of Financial Condition and Results of Operations – Purchase and Lease Options – Delivery and Installation*, for additional information on backlog.

Human Capital

As of December 31, 2020, we had 1,711 employees and contractors. We had approximately 1,316 full-time employees worldwide, of which 1,047 were located in the United States, 250 were located in India and 19 were located in other countries. We have never experienced a work stoppage, and we believe our relations with our employees to be good.

We believe that our future success largely depends upon our continued ability to attract and retain highly skilled employees. We provide our employees with competitive salaries and bonuses, opportunities for equity ownership, development programs that enable continued learning and growth and a robust employment package that promotes well-being across all aspects of their lives, including health care, retirement planning and paid time off.

Our mission is to make clean, reliable energy affordable, globally, and we are also committed to creating a world-class workforce. We are committed to full-spectrum diversity inclusive of gender, ethnicity, race, sexual orientation, age, ability, veteran status, religion, culture, background, and experiences. We strive to promote a culture of inclusion and diversity at all levels throughout Bloom.

In addition, we maintain an affirmative action program in accordance with applicable laws, regulations, executive orders, and government directives. We are committed to being a military-friendly employer, and we were recognized in 2018 with the Pro Patria Award by the Employer Support of the Guarded and Reserve ("ESGR"). This award recognizes employers who have demonstrated the greatest support to Guard and Reserve employees through their leadership and practices, and is the highest-level award that may be bestowed by an ESGR State Committee.

During the prior year, we successfully recruited and assimilated four additional key executives to the leadership team. This included a new Chief Financial Officer, Chief Marketing Officer, Executive Vice President of Policy and Government Affairs, and Executive Vice President of International Business Development.

With the onset of COVID-19, safety of our essential workers was our top priority followed by significantly increasing efforts to maintain and increase employee engagement. Our employee communication cadence increased exponentially including customized events and messaging designed to touch a diverse population.

We will continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic. As a technology company that supplies resilient, reliable and clean energy, we have been able to conduct the majority of operations as an "essential business" in California and Delaware, where we manufacture and perform many of our R&D activities, as well as in other states and countries where we are installing or maintaining our Energy Servers, notwithstanding government "shelter in place" orders. For the safety of our employees and others, many of our employees are still working from home unless they are directly supporting essential manufacturing production operations, installation work, service and maintenance activities and R&D. We have established protocols to minimize the risk of COVID-19 transmission within our facilities, including enhanced cleaning, and temperature screenings upon entry, as well as monthly testing at our manufacturing sites. In addition, all individuals entering our facilities are required to wear company-approved face coverings and are directed not to enter if they have COVID-19-like symptoms. Our policy is to follow CDC and local guidelines when notified of possible exposures. For more information regarding the risks posed to our company by the COVID-19 pandemic, refer to Part I, Item 1A, *Risk Factors – Risks Related to Our Products and Manufacturing – Our business has been and will continue to be adversely affected by the COVID-19 pandemic*.

Seasonal Trends and Economic Incentives

Our business and results of financial operations are not subject to industry-specific seasonal fluctuations. The desirability of our solution can be impacted by the availability and value of various governmental, regulatory and tax-based incentives which may change over time.

Corporate Facilities

Our corporate headquarters and principal executive offices are located at 4353 North First Street, San Jose, CA 95134, and our telephone number is (408) 543-1500. Our headquarters is used for administration, research and development, and sales and marketing and also houses one of our RMCC facilities.

Please see Part I, Item 2, *Properties* for additional information regarding our facilities.

Available Information

Our website address is www.bloomenergy.com and our investor relations website address is https://investor.bloomenergy.com. Websites are provided throughout this document for convenience only. The information contained on the referenced websites does not constitute a part of and is not incorporated by reference into this Annual Report on Form 10-K. Through a link on our website, we make available the following filings as soon as reasonably practicable after they are electronically filed with or furnished to the SEC: our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act, as well as proxy statements and certain filings relating to beneficial ownership of our securities. The SEC also maintains a website at www.sec.gov that contains all reports that we file or furnish with the SEC electronically. All such filings, including those on our website, are available free of charge.

ITEM 1A - RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the material risks and uncertainties described below, as well as the other information in this Annual Report on Form 10-K, including our consolidated financial statements and the related notes and "Management's Discussion and Analysis of Financial Condition and Results of Operations" before you decide to purchase our securities. In such an event, the market price of our Class A common stock could decline and you could lose all or part of your investment. It is not possible to predict or identify all such risks and uncertainties; our operations could also be affected by factors, events or uncertainties that are not presently known to us or that we currently do not consider to present significant risks to our operations. Therefore, you should not consider the following risks to be a complete statement of all the potential risks or uncertainties that we face.

The following summarizes the principal factors that make an investment in us speculative or risky. This summary should be read in conjunction with the Risk Factors section and should not be relied upon as an exhaustive summary of all the material risks facing our business.

Risk Factor Summary

Risks Related to Our Business, Industry and Sales

- The distributed generation industry is an emerging market and distributed generation may not receive widespread market acceptance, which may make evaluating our business and future prospects difficult.
- Our products involve a lengthy sales and installation cycle and if we fail to close sales on a regular and timely basis, our business could be harmed.
- Our Energy Servers have significant upfront costs, and we will need to attract investors to help customers finance purchases.

- The economic benefits of our Energy Servers to our customers depend on the cost of electricity available from alternative sources including local electric utility companies, and such cost structure is subject to change.
- We rely on interconnection requirements and net metering arrangements that are subject to change.
- We currently face and will continue to face significant competition.
- We derive a substantial portion of our revenue and backlog from a limited number of customers, and the loss of or a significant reduction in orders from a large customer could have a material adverse effect on our operating results and other key metrics.
- Our ability to develop new products and enter into new markets could be negatively impacted if we are unable to identify partners to assist in such development or expansion.

Risks Related to Our Products and Manufacturing

- Our business has been and will continue to be adversely affected by the COVID-19 pandemic.
- Our future success depends in part on our ability to increase our production capacity, and we may not be able to do so in a cost-effective manner.
- If we are not able to continue to reduce our cost structure in the future, our ability to become profitable may be impaired.
- If our Energy Servers contain manufacturing defects, our business and financial results could be harmed.
- The performance of our Energy Servers may be affected by factors outside of our control, which could result in harm to our business and financial results.
- If our estimates of the useful life for our Energy Servers are inaccurate or we do not meet our performance warranties and performance guaranties, or if we fail to accrue adequate warranty and guaranty reserves, our business and financial results could be harmed.
- Our business is subject to risks associated with construction, utility interconnection, cost overruns and delays, including those related to obtaining government permits and other contingencies that may arise in the course of completing installations.
- Any significant disruption in the operations at our manufacturing facilities could delay the production of our Energy Servers, which would harm our business and results of operations.
- The failure of our suppliers to continue to deliver necessary raw materials or other components of our Energy Servers in a timely manner and to specification could prevent us from delivering our products within required time frames, and could cause installation delays, cancellations, penalty payments and damage to our reputation.
- We have, in some instances, entered into long-term supply agreements that could result in insufficient inventory and negatively affect our results of operations.

Risks Related to Government Incentive Programs

- Our business currently depends on the availability of rebates, tax credits and other financial programs and incentives, and the reduction, modification, or elimination of such benefits could cause our revenue to decline and harm our financial results.
- We rely on tax equity financing arrangements to realize the benefits provided by investment tax credits and accelerated tax depreciation and in the event these programs are terminated, our financial results could be harmed.

Risks Related to Legal Matters and Regulations

- We are subject to various environmental laws and regulations that could impose substantial costs upon us and cause delays in the delivery and installation of our Energy Servers.
- The installation and operation of our Energy Servers are subject to environmental laws and regulations in various jurisdictions, and there is uncertainty with respect to the interpretation of certain environmental laws and regulations to our Energy Servers, especially as these regulations evolve over time.
- As a technology based, in part, on fossil fuel, we may be subject to a heightened risk of regulation, to a potential for the loss of certain incentives, and to changes in our customers' energy procurement policies.

Risks Related to Our Intellectual Property

- Our failure to protect our intellectual property rights may undermine our competitive position, and litigation to protect our intellectual property rights may be costly.
- Our patent applications may not result in issued patents, and our issued patents may not provide adequate protection, either of which may have a material adverse effect on our ability to prevent others from commercially exploiting products similar to ours.

Risks Related to Our Financial Condition and Operating Results

- We have incurred significant losses in the past and we may not be profitable for the foreseeable future.
- Our financial condition and results of operations and other key metrics are likely to fluctuate on a quarterly basis in future periods, which could cause our results for a particular period to fall below expectations, resulting in a severe decline in the price of our Class A common stock.
- If we fail to manage our growth effectively, our business and operating results may suffer.

- The accounting treatment related to our revenue-generating transactions is complex, and if we are unable to attract and retain highly qualified accounting personnel to evaluate the accounting implications of our complex or non-routine transactions, our ability to accurately report our financial results may be harmed.
- In our Annual Report on Form 10-K for the year ended December 31, 2019, we reached a determination to restate certain of our previously issued Consolidated Financial Statements as a result of the identification of material misstatements in previously issued consolidated financial statements, which resulted in unanticipated costs and may affect investor confidence and raise reputational issues.
- We identified a material weakness in our internal control over financial reporting at December 31, 2019 related to the accounting for and disclosure of complex or non-routine transactions**,** which has been remediated. If we otherwise fail to maintain effective internal control over financial reporting, our ability to report our financial results on a timely and an accurate basis may adversely affect the market price of our Class A common stock.

Risks Related to Our Liquidity

- We must maintain the confidence of our customers in our liquidity, including in our ability to timely service our debt obligations and in our ability to grow our business over the long-term.
- Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities' (defined herein) outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs.
- We may not be able to generate sufficient cash to meet our debt service obligations.

Risks Related to Our Operations

- We may have conflicts of interest with our PPA Entities (defined herein).
- Expanding operations internationally could expose us to additional risks.
- If we are unable to attract and retain key employees and hire qualified management, technical, engineering, and sales personnel, our ability to compete and successfully grow our business could be harmed.

Risks Related to Ownership of Our Common Stock

- The stock price of our Class A common stock has been and may continue to be volatile.
- The dual class structure of our common stock and the voting agreements among certain stockholders have the effect of concentrating voting control of our Company with KR Sridhar, our Chairman and Chief Executive Officer, and also with those stockholders who held our capital stock prior to the completion of our IPO (defined herein) including our directors, executive officers and significant stockholders, which limits or precludes your ability to influence corporate matters including the election of directors and the approval of any change of control transaction, and may adversely affect the trading price of our Class A common stock.
- We may issue additional shares of our Class A common stock in connection with any future conversion of the Green Notes (defined herein) and thereby dilute our existing stockholders and potentially adversely affect the market price of our Class A common stock.

Risks Related to Our Business, Industry and Sales

The distributed generation industry is an emerging market and distributed generation may not receive widespread market acceptance, which may make evaluating our business and future prospects difficult.

The distributed generation industry is still relatively nascent in an otherwise mature and heavily regulated industry, and we cannot be sure that potential customers will accept distributed generation broadly, or our Energy Server products specifically. Enterprises may be unwilling to adopt our solution over traditional or competing power sources for any number of reasons including the perception that our technology or our company is unproven, lack of confidence in our business model, the perceived unavailability of back-up service providers to operate and maintain the Energy Servers, and lack of awareness of our product or their perception of regulatory or political headwinds. Because distributed generation is an emerging industry, broad acceptance of our products and services is subject to a high level of uncertainty and risk. If the market develops more slowly than we anticipate, our business will be harmed.

From our inception in 2001 through 2009, we were focused principally on research and development activities relating to our Energy Server technology. We did not deploy our first Energy Server and did not recognize any revenue until 2009. Since that initial deployment, our business has expanded significantly over a comparatively short time, and we have had a limited history operating our business at its current scale. Consequently, predicting our future revenue and appropriately budgeting for our expenses is difficult, and we have limited insight into trends that may emerge and affect our business. If actual results differ from our estimates or if we adjust our estimates in future periods, our operating results and financial position could be materially and adversely affected.

Our products involve a lengthy sales and installation cycle and if we fail to close sales on a regular and timely basis, our business could be harmed.

Our sales cycle is typically 12 to 18 months but can vary considerably. In order to make a sale, we must typically provide a significant level of education to prospective customers regarding the use and benefits of our product and our technology. The period between initial discussions with a potential customer and the eventual sale of even a single product typically depends on a number of factors, including the potential customer's budget and decision as to the type of financing it chooses to use as well as the arrangement of such financing. Prospective customers often undertake a significant evaluation process that may further extend the sales cycle. Once a customer makes a formal decision to purchase our product, the fulfillment of the sales order by us requires a substantial amount of time. Generally, the time between the entry into a sales contract with a customer and the installation of our Energy Servers can range from nine to twelve months or more. This lengthy sales and installation cycle is subject to a number of significant risks over which we have little or no control. Because of both the long sales and long installation cycles, we may expend significant resources without having certainty of generating a sale.

These lengthy sales and installation cycles increase the risk that an installation may be delayed and/or may not be completed. In some instances, a customer can cancel an order for a particular site prior to installation, and we may be unable to recover some or all of our costs in connection with design, permitting, installation and site preparations incurred prior to cancellation. Cancellation rates can be between 10% and 20% in any given period due to factors outside of our control including an inability to install an Energy Server at the customer's chosen location because of permitting or other regulatory issues, delays or unanticipated costs in securing interconnection approvals or necessary utility infrastructure, unanticipated changes in the cost, or other reasons unique to each customer. Our operating expenses are based on anticipated sales levels, and many of our expenses are fixed. If we are unsuccessful in closing sales after expending significant resources or if we experience delays or cancellations, our business could be materially and adversely affected. Since we do not recognize revenue on the sales of our products until installation and acceptance, a small fluctuation in the timing of the completion of our sales transactions could cause operating results to vary materially from period to period.

Our Energy Servers have significant upfront costs, and we will need to attract investors to help customers finance purchases.

Our Energy Servers have significant upfront costs. In order to expand our offerings to customers who lack the financial capability to purchase our Energy Servers directly (including customers who are not in a position to optimize the use of federal tax benefits like the ITC and accelerated depreciation) and/or who prefer to lease the product or contract for our services on a pay-as-you-go model, we subsequently developed three financing options that enabled customers use of the Energy Servers without a direct purchase through third-party ownership financing arrangements. For a more detailed description of these different financing arrangements, please see Part II, Item 7, *Management's Discussion and Analysis of Financial Condition and Results of Operations – Purchase and Lease Options*. At present, we still had not secured funding for all of our planned installations in 2021. If we are not able to secure funding in a timely fashion, our results of operations and financial condition will be negatively impacted.

We will need to grow committed financing capacity with existing partners or attract additional partners to support our growth, including fuel cells for the hydrogen market. Generally, at any point in time, the deployment of a portion of our backlog is contingent on securing available financing. Our ability to attract third-party financing depends on many factors that are outside of our control, including the Equity Investors' ability to utilize tax credits and other government incentives, interest rate and/or currency exchange fluctuations, our perceived creditworthiness and the condition of credit markets generally. Our financing of customer purchases of our Energy Servers is subject to conditions such as the customer's credit quality and the expected minimum internal rate of return on the customer engagement, and if these conditions are not satisfied, we may be unable to finance purchases of our Energy Servers, which would have an adverse effect on our revenue in a particular period. If we are unable to help our customers arrange financing for our Energy Servers generally, our business will be harmed. Additionally, the Traditional Lease option and the Managed Services Financing option, as with all leases, are also limited by the customer's willingness to commit to making fixed payments regardless of the performance of the Energy Servers or our performance of our obligations under the customer agreement. To the extent we are unable to arrange future financings for any of our current projects, our business would be negatively impacted.

In attempting to attract new customers to support our growth, we are constantly innovating our customer contracts. These new types of product offerings may require us to find partners willing to finance these new projects, which may have different terms and financing conditions from prior transactions. If the terms of these transactions or the structure of these projects fails to attract financiers, we may not be able to proceed with growing our business and our potential for growth may be limited.

Further, our sales process for transactions that require financing require that we make certain assumptions regarding the cost of financing capital. Actual financing costs may vary from our estimates due to factors outside of our control, including changes in customer creditworthiness, macroeconomic factors, the returns offered by other investment opportunities available to our financing partners, and other factors. If the cost of financing ultimately exceeds our estimates, we may be unable to proceed with some or all of the impacted projects or our revenue from such projects may be less than our estimates.

If we are unable to procure financing partners willing to finance deployments of our products or if the cost of such financing exceeds our estimates, our business would be negatively impacted.

The economic benefits of our Energy Servers to our customers depend on the cost of electricity available from alternative sources including local electric utility companies, and such cost structure is subject to change.

We believe that a customer's decision to purchase our Energy Servers is significantly influenced by the price, the price predictability of electricity generated by our Energy Servers in comparison to the retail price, and the future price outlook of electricity from the local utility grid and other energy sources. The economic benefit of our Energy Servers to our customers includes, among other things, the benefit of reducing such customer's payments to the local utility company. The rates at which electricity is available from a customer's local electric utility company is subject to change and any changes in these rates may affect the relative benefits of our Energy Servers. Even in markets where we are competitive today, rates for electricity could decrease and render our Energy Servers uncompetitive. Several factors could lead to a reduction in the price or future price outlook for grid electricity, including the impact of energy conservation initiatives that reduce electricity consumption, construction of additional power generation plants (including nuclear, coal or natural gas) and technological developments by others in the electric power industry, which could result in electricity being available at costs lower than those that can be achieved from our Energy Servers. If the retail price of grid electricity does not increase over time at the rate that we or our customers expect, it could reduce demand for our Energy Servers and harm our business.

Further, the local electric utility or regulatory authorities may impose "departing load," "standby," power factor charges, greenhouse gas emissions charges, or other charges on our customers in connection with their acquisition or use of our Energy Servers, the amounts of which are outside of our control and which may have a material impact on the economic benefit of our Energy Servers to our customers. Changes in the rates offered by local electric utilities and/or in the applicability or amounts of charges and other fees imposed or incentives granted by such utilities on customers acquiring our Energy Servers could adversely affect the demand for our Energy Servers.

In some states and countries, the current low cost of grid electricity, even together with available subsidies, does not render our product economically attractive. If we are unable to reduce our costs to a level at which our Energy Servers would be competitive in such markets, or if we are unable to generate demand for our Energy Servers based on benefits other than electricity cost savings, such as reliability, resilience, or environmental benefits, our potential for growth may be limited.

Furthermore, an increase in the price of natural gas or curtailment of availability (e.g., as a consequence of physical limitations or adverse regulatory conditions for the delivery of production of natural gas) or the inability to obtain natural gas service could make our Energy Servers less economically attractive to potential customers and reduce demand.

We rely on interconnection requirements and net metering arrangements that are subject to change.

Because our Energy Servers are designed to operate at a constant output 24x7, and our customers' demand for electricity typically fluctuates over the course of the day or week, there are often periods when our Energy Servers are producing more electricity than a customer may require, and such excess electricity must be exported to the local electric utility. Many, but not all, local electric utilities provide compensation to our customers for such electricity under "net metering" programs. Utility tariffs and fees, interconnection agreements and net metering requirements are subject to changes in availability and terms and some jurisdictions do not allow interconnections or export at all. At times in the past, such changes have had the effect of significantly reducing or eliminating the benefits of such programs. Changes in the availability of, or benefits offered by, utility tariffs, the net metering requirements or interconnection agreements in place in the jurisdictions in which we operate or in which we anticipate expanding into in the future could adversely affect the demand for our Energy Servers. For example, in California, changes are expected in the eligibility requirements for the net metering tariffs applicable to fuel cells that are currently in effect from investor-owned utilities. We can predict the outcome of the regulatory proceedings addressing such requirements, in which we remain an active participant.

We currently face and will continue to face significant competition.

We compete for customers, financing partners, and incentive dollars with other electric power providers. Many providers of electricity, such as traditional utilities and other companies offering distributed generation products, have: longer operating histories; customer incumbency advantages; access to and influence with local and state governments; and access to more capital resources than us. Significant developments in alternative technologies, such as energy storage, wind, solar, or hydro power generation, or improvements in the efficiency or cost of traditional energy sources, including coal, oil, natural gas used in combustion, or nuclear power, may materially and adversely affect our business and prospects in ways we cannot anticipate. We may also face new competitors who are not currently in the market. If we fail to adapt to changing market conditions and to compete successfully with grid electricity or new competitors, our growth will be limited, which would adversely affect our business results.

We derive a substantial portion of our revenue and backlog from a limited number of customers, and the loss of or a significant reduction in orders from a large customer could have a material adverse effect on our operating results and other key metrics.

In any particular period, a substantial amount of our total revenue could come from a relatively small number of customers. As an example, in the year ended December 31, 2020, two customers, SK E&C and Duke Energy, accounted for approximately 34% and 28% of our total revenue, respectively, and, in the year ended December 31, 2019, two customers, The Southern Company and SK E&C, accounted for approximately 34% and 23% of our total revenue, respectively. A unit of The Southern Company wholly owns a Third-Party PPA, and that entity purchases Energy Servers, which are then provided to various end customers under PPAs. The loss of any large customer order or any delays in installations of new Energy Servers with any large customer would materially and adversely affect our business results.

Our ability to develop new products and enter into new markets could be negatively impacted if we are unable to identify partners to assist in such development or expansion.

We continue to develop new products for new markets and, as we move into those markets, we may need to identify new business partners in order to facilitate such development and expansion. Identifying new business and development partners is a lengthy process and is subject to significant risks and uncertainties. For example, our entry into the hydrogen market will require us to develop new products and engage with new partners and suppliers. In addition, there could be delays in the design, manufacture and installation of such new products. If we are unable to identify reliable partners in a new market, unable to negotiate mutually-acceptable terms to form the basis of new partnership arrangements or not timely in the development of new products, our ability to expand our business could be limited and our financial condition and results of operations could be harmed.

Risks Related to Our Products and Manufacturing

Our business has been and continues to be adversely affected by the COVID-19 pandemic.

We continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic. As a technology company that supplies resilient, reliable and clean energy, we have been able to conduct the majority of operations as an “essential business” in California and Delaware, where we manufacture and perform many of our R&D activities, as well as in other states and countries where we are installing or maintaining our Energy Servers. For the safety of our employees and others, many of our employees are still working from home unless they are directly supporting essential manufacturing production operations, installation work, service and maintenance activities and R&D. We have established protocols to minimize the risk of COVID-19 transmission within our facilities, including enhanced cleaning, temperature screenings upon entry, and on-site testing at our manufacturing sites. In addition, all individuals entering Bloom facilities are required to wear face coverings and are directed not to enter if they have COVID-19-like symptoms. We follow CDC and local guidelines when notified of possible exposures. Even with these precautions, it is possible an asymptomatic individual could enter our facilities and transmit the virus to others.

If we become aware of any cases of COVID-19 among any of our employees, we notify those with whom the person is known to have been in contact, send the exposed employees home for at least 10 days and require each employee to be tested negative before returning to work. We have had a few cases to date. Certain roles within our facilities involve greater mobility throughout our facilities and potential exposure to more employees. In the event one of such employees suffers from COVID-19, or if we otherwise believe that a significant number of employees have been exposed and sent home, particularly in our manufacturing facilities, our production could be significantly impacted. Furthermore, since our manufacturing process involves tasks performed at both our California facility and Delaware facility, significant exposure at either facility would have a substantial impact on our overall production, and in such case, our cash flow and results of operations including revenue will be adversely affected.

We have experienced COVID-19 related delays from certain vendors and suppliers, which, in turn, could cause delays in the manufacturing and installation of our Energy Servers and adversely impact our cash flows and results of operations including revenue. To date, we have been able to offset any issues with alternative suppliers, but in the future, it may not be possible to find replacement products or supplies, and ongoing delays could affect our business and growth. For example, particular suppliers on which we rely were shut down, and we were not able to obtain the needed parts. While we have identified and qualified alternative suppliers for these parts, we may experience future disruptions in the availability or price of these or other parts, and we cannot guarantee that we will succeed in finding alternate suppliers that are able to meet our needs. In addition, international air and sea logistics systems have been heavily impacted by the COVID-19 pandemic. Air carriers have significantly reduced their passenger and air freight capacity, and many ports are either temporarily closed or have reduced their hours of operation. Actions by government agencies may further restrict the operations of freight carriers, which would negatively impact our ability to receive the parts and supplies we need to manufacture our Energy Servers or to deliver them to our customers.

We also rely on third party financing for our customers' purchases of our Energy Servers. If third party financiers experience liquidity problems or elect to suspend or cancel investments in our projects, we may be unable to secure financing for our customer purchases, which in turn would impact our ability to deploy our Energy Servers and impact our cash flows and results of operations, including revenue. We believe the current environment may also increase the time to solidify new relationships, which could impact the time required to achieve funding. Our ability to obtain financing for our Energy Servers also partly depends on the creditworthiness of our customers. Some of our current and prospective customers' credit ratings have recently fallen, which may make it difficult for us to obtain financing for their use of an Energy Server. For current customers whose Energy Servers are not yet installed, an inability to obtain financing may impact our cash flows and results of operations including revenue. For prospective customers, it may decrease demand for our Energy Servers if financing is not available in light of their credit. If our customers cannot obtain financing to purchase our Energy Servers, our cash flow and results of operations including revenue will be adversely affected. Although the impact of the COVID-19 pandemic on our ability to obtain financing for our customers' use of our Energy Servers has not yet had a significant impact on our business, delays in obtaining financing for our Energy Servers would lead to a decrease in our cash flows and results of operations, including revenue. Furthermore, in cases where the inability to obtain financing only becomes apparent after we have installed an Energy Server, there would be no offsetting decrease in our expenses.

Our installation and maintenance operations have also been, and will continue to be, adversely impacted by the COVID-19 pandemic. For example, our installation projects have experienced delays and may continue to experience delays relating to, among other things, shortages in available labor for design, installation and other work; the inability or delay in our ability to access customer facilities due to shutdowns or other restrictions; the decreased productivity of our general contractors, their sub-contractors, medium-voltage electrical gear suppliers, and the wide range of engineering and construction related specialist suppliers on whom we rely for successful and timely installations; the stoppage of work by gas and electric utilities on which we are critically dependent for hook ups; and the unavailability of necessary civil and utility inspections as well as the review of our permit submissions and issuance of permits by multiple authorities that have jurisdiction over our activities.

We are not the only business impacted by these shortages and delays, which means that we may in the future face increased competition for scarce resources, which may result in continuing delays or increases in the cost of obtaining such services, including increased labor costs and/or fees to expedite permitting. In addition, while construction activities have to date been deemed "essential business" and allowed to proceed in many jurisdictions, we have experienced interruptions and delays caused by confusion related to exemptions for "essential business" among our suppliers and their sub-contractors and the relevant permitting utilities. Future changes in applicable government orders or regulations, or changes in the interpretation of existing orders or regulations, could result in reductions in the scope of permitted construction activities or prohibitions on such activities. An inability to install our Energy Servers would negatively impact our acceptances, and thereby impact our cash flows and results of operations, including revenue.

As to maintenance, if we are delayed in or unable to perform scheduled or unscheduled maintenance, our previously-installed Energy Servers will likely experience adverse performance impacts including reduced output and/or efficiency, which could result in warranty and/or guaranty claims by our customers. Further, due to the nature of our Energy Servers, if we are unable to replace worn parts in accordance with our standard maintenance schedule, we may be subject to increased costs in the future.

We continue to remain in close communication with our manufacturing facilities, employees, customers, suppliers and partners, and are working to mitigate the impact of this dynamic and evolving situation, but there is no guarantee that we will be able to do so.

Our future success depends in part on our ability to increase our production capacity, and we may not be able to do so in a cost-effective manner.

To the extent we are successful in growing our business, we may need to increase our production capacity. For example, our current manufacturing capacity is not sufficient to meet our planned 2021 production targets and we are currently seeking to expand our capacity. Our ability to plan, construct, and equip additional manufacturing facilities is subject to significant risks and uncertainties, including the following:

- The expansion or construction of any manufacturing facilities will be subject to the risks inherent in the development and construction of new facilities, including risks of delays and cost overruns as a result of factors outside our control, which may include delays in government approvals, burdensome permitting conditions, and delays in the delivery of manufacturing equipment and subsystems that we manufacture or obtain from suppliers.
- In order for us to expand internationally, we have entered into joint venture agreements that have allowed us to add manufacturing capability outside of the United States. Adding manufacturing capacity in any international location will subject us to new laws and regulations including those pertaining to labor and employment, environmental and export / import. In addition, it brings with it the risk of managing larger scale foreign operations.
- We may be unable to achieve the production throughput necessary to achieve our target annualized production run rate at our current and future manufacturing facilities.
- Manufacturing equipment may take longer and cost more to engineer and build than expected, and may not operate as required to meet our production plans.
- We may depend on third-party relationships in the development and operation of additional production capacity, which may subject us to the risk that such third parties do not fulfill their obligations to us under our arrangements with them.
- We may be unable to attract or retain qualified personnel.

If we are unable to expand our manufacturing facilities, we may be unable to further scale our business, which would negatively affect our results of operations and financial condition. In addition, if any of our supply chain partners suffer from capacity constraints, deployment delays, work stoppages or any other reduction in output, we may be unable to meet our delivery schedule, which could result in lost revenue and deployment delays that could harm our business and customer relationships. If the demand for our Energy Servers or our production output decreases or does not rise as expected, we may not be able to spread a significant amount of our fixed costs over the production volume, resulting in a greater than expected per unit fixed cost, which would have a negative impact on our financial condition and our results of operations.

If we are not able to continue to reduce our cost structure in the future, our ability to become profitable may be impaired.

We must continue to reduce the manufacturing costs for our Energy Servers to expand our market. Additionally, certain of our existing service contracts were entered into based on projections regarding service costs reductions that assume continued advances in our manufacturing and services processes that we may be unable to realize. The cost of components and raw materials, for example, could increase in the future, offsetting any successes in reducing our manufacturing and services costs. Any such increases could slow our growth and cause our financial results and operational metrics to suffer. In addition, we may face increases in our other expenses including increases in wages or other labor costs as well as installation, marketing, sales or related costs. In order to expand into new electricity markets (in which the price of electricity from the grid is lower) while still maintaining our current margins, we will need to continue to reduce our costs. Increases in any of these costs or our failure to achieve projected cost reductions could adversely affect our results of operations and financial condition and harm our business and prospects. If we are unable to reduce our cost structure in the future, we may not be able to achieve profitability, which could have a material adverse effect on our business and our prospects.

If our Energy Servers contain manufacturing defects, our business and financial results could be harmed.

Our Energy Servers are complex products and they may contain undetected or latent errors or defects. In the past, we have experienced latent defects only discovered once the Energy Server is deployed in the field. Changes in our supply chain or the failure of our suppliers to otherwise provide us with components or materials that meet our specifications could introduce defects into our products. As we grow our manufacturing volume, the chance of manufacturing defects could increase. In addition, new product introductions or design changes made for the purpose of cost reduction, performance improvement, fulfilling new customer requirements or improved reliability could introduce new design defects that may impact Energy Server performance and life. Any design or manufacturing defects or other failures of our Energy Servers to perform as expected could cause us to incur significant service and re-engineering costs, divert the attention of our engineering personnel from product development efforts, and significantly and adversely affect customer satisfaction, market acceptance, and our business reputation.

Furthermore, we may be unable to correct manufacturing defects or other failures of our Energy Servers in a manner satisfactory to our customers, which could adversely affect customer satisfaction, market acceptance, and our business reputation.

The performance of our Energy Servers may be affected by factors outside of our control, which could result in harm to our business and financial results.

Field conditions, such as the quality of the natural gas supply and utility processes, which vary by region and may be subject to seasonal fluctuations or environmental factors such as smoke from wild fires, have affected the performance of our Energy Servers and are not always possible to predict until the Energy Server is in operation. As we move into new geographies and deploy new service configurations, we may encounter new and unanticipated field conditions. Adverse impacts on performance may require us to incur significant service and re-engineering costs or divert the attention of our engineering personnel from product development efforts. Furthermore, we may be unable to adequately address the impacts of factors outside of our control in a manner satisfactory to our customers. Any of these circumstances could significantly and adversely affect customer satisfaction, market acceptance, and our business reputation.

If our estimates of the useful life for our Energy Servers are inaccurate or we do not meet our performance warranties and performance guaranties, or if we fail to accrue adequate warranty and guaranty reserves, our business and financial results could be harmed.

We offer certain customers the opportunity to renew their O&M Agreements (defined herein) on an annual basis, for up to 30 years, at prices predetermined at the time of purchase of the Energy Server. We also provide performance warranties and performance guaranties covering the efficiency and output performance of our Energy Servers. Our pricing of these contracts and our reserves for warranty and replacement are based upon our estimates of the useful life of our Energy Servers and their components, including assumptions regarding improvements in power module life that may fail to materialize. We do not have a long history with a large number of field deployments, especially for new product introductions, and our estimates may prove to be incorrect. Failure to meet these warranty and performance guaranty levels may require us to replace the Energy Servers at our expense or refund their cost to the customer, or require us to make cash payments to the customer based on actual performance, as compared to expected performance, capped at a percentage of the relevant equipment purchase prices. We accrue for product warranty costs and recognize losses on service or performance warranties when required by U.S. GAAP based on our estimates of costs that may be incurred and based on historical experience. However, as we expect our customers to renew their O&M agreements each year, the total liability over time may be more than the accrual. Actual warranty expenses have in the past been and may in the future be greater than we have assumed in our estimates, the accuracy of which may be hindered due to our limited history operating at our current scale.

As of December 31, 2020, we had a total of 23 megawatts in total deployed early generation servers, including our first and second generation servers, out of our total acceptances, net of 568 megawatts. None of these early generation servers are recognized as our property, plant and equipment. We expect that our deployed early generation Energy Servers, if not upgraded with our more current generation power modules, may continue to perform at a lower output and efficiency level and, as a result, the maintenance costs may exceed the contracted prices that we expect to generate if our customers continue to renew their maintenance service agreements with respect to those servers. Further, the Energy Servers held on our consolidated financial statements, including those acquired through our Managed Services Financing option and our Portfolio Financings, could be impaired or have their useful life shortened in the future if adequate maintenance services are not performed or if a determination is made to upgrade the Energy Servers.

Our business is subject to risks associated with construction, utility interconnection, cost overruns and delays, including those related to obtaining government permits and other contingencies that may arise in the course of completing installations.

Because we generally do not recognize revenue on the sales of our Energy Servers until installation and acceptance except where a third party is responsible for installation (such as in our sales in the Republic of Korea), our financial results depend to a large extent on the timeliness of the installation of our Energy Servers. Furthermore, in some cases, the installation of our Energy Servers may be on a fixed price basis, which subjects us to the risk of cost overruns or other unforeseen expenses in the installation process.

The construction, installation, and operation of our Energy Servers at a particular site is also generally subject to oversight and regulation in accordance with national, state, and local laws and ordinances relating to building codes, safety, environmental protection, and related matters, and typically require various local and other governmental approvals and permits, including environmental approvals and permits, that vary by jurisdiction. In some cases, these approvals and permits require periodic renewal. It is difficult and costly to track the requirements of every individual authority having jurisdiction over our installations, to design our Energy Servers to comply with these varying standards, and to obtain all applicable approvals and permits. We cannot predict whether or when all permits required for a given project will be granted or whether the conditions associated with the permits will be achievable. The denial of a permit or utility connection essential to a project or the imposition of impractical conditions would impair our ability to develop the project. In addition, we cannot predict whether the permitting process will be lengthened due to complexities and appeals. Delay in the review and permitting process for a project can impair or delay our and our customers' abilities to develop that project or may increase the cost so substantially that the project is no longer attractive to us or our customers. Furthermore, unforeseen delays in the review and permitting process could delay the timing of the installation of our Energy Servers and could therefore adversely affect the timing of the recognition of revenue related to the installation, which could harm our operating results in a particular period.

In addition, the completion of many of our installations depends on the availability of and timely connection to the natural gas grid and the local electric grid. In some jurisdictions, local utility companies or the municipality have denied our request for connection or have required us to reduce the size of certain projects. In addition, some municipalities have recently adopted restrictions that prohibit any new construction that allows for the use of natural gas. For more information regarding these restrictions, please see the risk factor entitled "*As a technology based, in part, on fossil fuel, we may be subject to a heightened risk of regulation, to a potential for the loss of certain incentives, and to changes in our customers' energy procurement policies.*" Any delays in our ability to connect with utilities, delays in the performance of installation-related services, or poor performance of installation-related services by our general contractors or sub-contractors will have a material adverse effect on our results and could cause operating results to vary materially from period to period.

Furthermore, we rely on the ability of our third-party general contractors to install Energy Servers at our customers' sites and to meet our installation requirements. We currently work with a limited number of general contractors, which has impacted and may continue to impact our ability to make installations as planned. Our work with contractors or their sub-contractors may have the effect of our being required to comply with additional rules (including rules unique to our customers), working conditions, site remediation, and other union requirements, which can add costs and complexity to an installation project. The timeliness, thoroughness, and quality of the installation-related services performed by some of our general contractors and their sub-contractors in the past have not always met our expectations or standards and may not meet our expectations and standards in the future.

Any significant disruption in the operations at our manufacturing facilities could delay the production of our Energy Servers, which would harm our business and results of operations.

We manufacture our Energy Servers in a limited number of manufacturing facilities, any of which could become unavailable either temporarily or permanently for any number of reasons, including equipment failure, material supply, public health emergencies or catastrophic weather or geologic events. For example, several of our manufacturing facilities are located in Northern California, an area that is susceptible to earthquakes, floods and other natural disasters. In the event of a significant disruption to our manufacturing process or supply chain, we may not be able to easily shift production to other facilities or to make up for lost production, which could result in harm to our reputation, increased costs, and lower revenues.

The failure of our suppliers to continue to deliver necessary raw materials or other components of our Energy Servers in a timely manner and to specification ***could prevent us from delivering our products within required time frames, and could cause installation delays, cancellations, penalty payments, and damage to our reputation.***

We rely on a limited number of third-party suppliers for some of the raw materials and components for our Energy Servers, including certain rare earth materials and other materials that may be of limited supply. If our suppliers provide insufficient inventory at the level of quality required to meet customer demand or if our suppliers are unable or unwilling to provide us with the contracted quantities (as we have limited or in some case no alternatives for supply), our results of operations could be materially and negatively impacted. If we fail to develop or maintain our relationships with our suppliers, or if there is otherwise a shortage or lack of availability of any required raw materials or components, we may be unable to manufacture our Energy Servers or our Energy Servers may be available only at a higher cost or after a long delay. Such delays could prevent us from delivering our Energy Servers to our customers within required time frames and cause order cancellations. We have had to create our own supply chain for some of the components and materials utilized in our fuel cells. We have made significant expenditures in the past to develop our supply chain. In many cases, we entered into contractual relationships with suppliers to jointly develop the components we needed. These activities are time and capital intensive. Accordingly, the number of suppliers we have for some of our components and materials is limited and, in some cases, sole sourced. In addition, some of our suppliers use proprietary processes to manufacture components. We may be unable to obtain comparable components from alternative suppliers without considerable delay, expense, or at all, as replacing these suppliers could require us either to make significant investments to bring the capability in-house or to invest in a new supply chain partner. Some of our suppliers are smaller, private companies, heavily dependent on us as a customer. If our suppliers face difficulties obtaining the credit or capital necessary to expand their operations when needed, they could be unable to supply necessary raw materials and components needed to support our planned sales and services operations, which would negatively impact our sales volumes and cash flows.

Moreover, we have in the past and may in the future experience unanticipated disruptions to operations or other difficulties with our supply chain or internalized supply processes due to exchange rate fluctuations, volatility in regional markets from where materials are obtained (particularly China and Taiwan), changes in the general macroeconomic outlook, global trade disputes, political instability, expropriation or nationalization of property, public health emergencies such as the COVID-19 pandemic, civil strife, strikes, insurrections, acts of terrorism, acts of war, or natural disasters. The failure by us to obtain raw materials or components in a timely manner or to obtain raw materials or components that meet our quantity and cost requirements could impair our ability to manufacture our Energy Servers or increase their costs or service costs of our existing portfolio of Energy Servers under maintenance services agreements. If we cannot obtain substitute materials or components on a timely basis or on acceptable terms, we could be prevented from delivering our Energy Servers to our customers within required time frames, which could result in sales and installation delays, cancellations, penalty payments, or damage to our reputation, any of which could have a material adverse effect on our business and results of operations. In addition, we rely on our suppliers to meet quality standards, and the failure of our suppliers to meet or exceed those quality standards could cause delays in the delivery of our products, cause unanticipated servicing costs, and cause damage to our reputation.

We have, in some instances, entered into long-term supply agreements that could result in insufficient inventory and negatively affect our results of operations.

We have entered into long-term supply agreements with certain suppliers. Some of these supply agreements provide for fixed or inflation-adjusted pricing, substantial prepayment obligations and in a few cases, supplier purchase commitments. These arrangements could mean that we end up paying for inventory that we did not need or that was at a higher price than the market. Further, we face significant specific counterparty risk under long-term supply agreements when dealing with suppliers without a long, stable production and financial history. Given the uniqueness of our product, many of our suppliers do not have a long operating history and are private companies that may not have substantial capital resources. In the event any such supplier experiences financial difficulties, it may be difficult or impossible, or may require substantial time and expense, for us to recover any or all of our prepayments. We do not know whether we will be able to maintain long-term supply relationships with our critical suppliers or whether we may secure new long-term supply agreements. Additionally, many of our parts and materials are procured from foreign suppliers, which exposes us to risks including unforeseen increases in costs or interruptions in supply arising from changes in applicable international trade regulations such as taxes, tariffs, or quotas. Any of the foregoing could materially harm our financial condition and our results of operations.

We face supply chain competition, including competition from businesses in other industries, which could result in insufficient inventory and negatively affect our results of operations.

Certain of our suppliers also supply parts and materials to other businesses including businesses engaged in the production of consumer electronics and other industries unrelated to fuel cells. As a relatively low-volume purchaser of certain of these parts and materials, we may be unable to procure a sufficient supply of the items in the event that our suppliers fail to produce sufficient quantities to satisfy the demands of all of their customers, which could materially harm our financial condition and our results of operations.

We, and some of our suppliers, obtain capital equipment used in our manufacturing process from sole suppliers and, if this equipment is damaged or otherwise unavailable, our ability to deliver our Energy Servers on time will suffer.

Some of the capital equipment used to manufacture our products and some of the capital equipment used by our suppliers have been developed and made specifically for us, are not readily available from multiple vendors, and would be difficult to repair or replace if they did not function properly. If any of these suppliers were to experience financial difficulties or go out of business or if there were any damage to or a breakdown of our manufacturing equipment and we could not obtain replacement equipment in a timely manner, our business would suffer. In addition, a supplier's failure to supply this equipment in a timely manner with adequate quality and on terms acceptable to us could disrupt our production schedule or increase our costs of production and service.

Possible new tariffs could have a material adverse effect on our business.

Our business is dependent on the availability of raw materials and components for our Energy Servers, particularly electrical components common in the semiconductor industry, specialty steel products / processing and raw materials. Tariffs imposed on steel and aluminum imports have increased the cost of raw materials for our Energy Servers and decreased the available supply. Additional new tariffs or other trade protection measures that are proposed or threatened and the potential escalation of a trade war and retaliation measures could have a material adverse effect on our business, results of operations and financial condition.

To the extent practicable, given the limitations in supply chain previously discussed, our business is subject to the risk of price fluctuations and periodic delays in the delivery of certain raw materials, which tariffs may exacerbate despite our current alternative sources for these materials. Disruptions in the supply of raw materials and components could temporarily impair our ability to manufacture our Energy Servers for our customers or require us to pay higher prices in order to obtain these raw materials or components from other sources, which could affect our business and our results of operations. Consequently, the imposition of tariffs on items imported by us from China or other countries could increase our costs and could have a material adverse effect on our business and our results of operations.

A failure to properly comply (or to comply properly) with foreign trade zone laws and regulations could increase the cost of our duties and tariffs.

We have established two foreign trade zones, one in California and one in Delaware, through qualification with U.S. Customs and Border Protection, and are approved for "zone to zone" transfers between our California and Delaware facilities. Materials received in a foreign trade zone are not subject to certain U.S. duties or tariffs until the material enters U.S. commerce. We benefit from the adoption of foreign trade zones by reduced duties, deferral of certain duties and tariffs, and reduced processing fees, which help us realize a reduction in duty and tariff costs. However, the operation of our foreign trade zones requires compliance with applicable regulations and continued support of U.S. Customs and Border Protection with respect to the foreign trade zone program. If we are unable to maintain the qualification of our foreign trade zones, or if foreign trade zones are limited or unavailable to us in the future, our duty and tariff costs would increase, which could have an adverse effect on our business and results of operations.

Risks Related to Government Incentive Programs

Our business currently depends on the availability of rebates, tax credits and other financial programs and incentives, and the reduction, modification, or elimination of such benefits could cause our revenue to decline and harm our financial results.

The U.S. federal government and some state and local governments provide incentives to end users and purchasers of our Energy Servers in the form of rebates, tax credits, and other financial incentives, such as system performance payments and payments for renewable energy credits associated with renewable energy generation. In addition, some countries outside the United States also provide incentives to end users and purchasers of our Energy Servers. We currently have operations and sell our Energy Servers in Japan, India, and the Republic of Korea (collectively, our "Asia Pacific region"), where in some locations such as the Republic of Korea, Renewable Portfolio Standards ("RPS") are in place to promote the adoption of renewable power generation, including fuel cells. Our Energy Servers have qualified for tax exemptions, incentives, or other customer incentives in many states including the states of California, Connecticut, Massachusetts, New Jersey and New York. Some states have utility procurement programs and/or renewable portfolio standards for which our technology is eligible. Our Energy Servers are currently installed in ten U.S. states, each of which may have its own enabling policy framework. We rely on these governmental rebates, tax credits, and other financial incentives to significantly lower the effective price of the Energy Servers to our customers in the U. S. and the Asia Pacific region. Financiers and Equity Investors in our PPA Programs may also take advantage of these financial incentives, lowering the cost of capital and energy to our customers. However, these incentives or RPS may expire on a particular date, end when the allocated funding is exhausted, or be reduced or terminated as a matter of regulatory or legislative policy.

For example, the RPS is scheduled to be replaced at the end of 2021 with the Hydrogen Portfolio Standard (“HPS”). This may impact the demand for our Energy Servers in the Republic of Korea. Initially, we do not expect the HPS to require 100% hydrogen as an input fuel for fuel cell projects. The Ministry of Trade, Industry, and Economy is running a stakeholder process in 2021 to determine the specifics of the HPS incentive mechanism. As of December 31, 2020, our revenue in the Republic of Korea accounted for 34% of our total revenue. Therefore, if sales of our Energy Servers to this market decline in the future, this may have a material adverse effect on our financial condition and results of operations.

As another example, the previous federal ITC, a federal tax incentive for fuel cell production, expired on December 31, 2016. Without the availability of the ITC benefit incentive, we lowered the price of our Energy Servers to help the economics to our customers remain the same as it was prior to losing the ITC benefit, adversely affecting our gross profit. While the ITC was reinstated by the U.S Congress on February 9, 2018 and made retroactive to January 1, 2017, under current law it will phase out on December 31, 2023, as noted below:

- installations that commence construction before January 1, 2023 are eligible for a 26% credit;
- installations that commence construction in 2023 are eligible for a 22% credit; and
- installations have to be placed in service by January 1, 2026 or the installations become ineligible for the credit.

The ITC program has operational criteria that extend for five years. If the energy property is disposed or otherwise ceases to be qualified investment credit property before the close of the five-year recapture period is fulfilled, it could result in a partial reduction of the incentives. In the case of a Portfolio Financing, the owner of the portfolio bears the risk of repayment if the assets placed in service do not meet the ITC operational criteria in the future.

As another example, many of our installations in California interconnect with investor-owned utilities on Fuel Cell Net Energy Metering (“FC NEM”) tariffs. The FC NEM tariffs will not be available for new installations after December 31, 2021 and installations that are currently on FC NEM tariffs will have to meet more stringent standards regarding the emissions of greenhouse gases that are under development in order to remain eligible for the FC NEM tariffs. It is not certain that our efforts to obtain an acceptable substitute prior to that deadline will be successful. If our customers are unable to interconnect under the FC NEM tariffs the costs of interconnection may increase and such an increase may negatively impact demand for our products. Additionally, the uncertainty regarding the requirements for continued service under the FC NEM tariffs may negatively impact the perceived value or risks of our products, which may negatively impact demand for our products. Recognizing this, we are working with the appropriate regulatory channels to establish interconnection opportunities through an active proceeding at the California Public Utilities Commission. The proceeding, which is focused on the commercialization of microgrids, is currently ongoing, and we anticipate clarity on interconnection opportunities by late 2021.

Changes in the availability of rebates, tax credits, and other financial programs and incentives could reduce demand for our Energy Servers, impair sales financing, and adversely impact our business results. The continuation of these programs and incentives depends upon political support which to date has been bipartisan and durable. Nevertheless, one set of political activists aggressively seeks to eliminate these programs while another set seeks to deny access to these programs and incentives for any technology that relies on natural gas, regardless of the technology’s positive contribution to reducing air pollution, reducing carbon emissions or enabling electric service to be more reliable and resilient.

We rely on tax equity financing arrangements to realize the benefits provided by investment tax credits and accelerated tax depreciation and in the event these programs are terminated, our financial results could be harmed.

We expect that Energy Server deployments through certain of our financed transactions will receive capital from Equity Investors who derive a significant portion of their economic returns through tax benefits. Equity Investors are generally entitled to substantially all of the project’s tax benefits, such as those provided by the ITC and Modified Accelerated Cost Recovery System ("MACRS") or bonus depreciation, until the Equity Investors achieve their respective agreed rates of return. The number of and available capital from potential Equity Investors is limited, we compete with other energy companies eligible for these tax benefits to access such investors, and the availability of capital from Equity Investors is subject to fluctuations based on factors outside of our control such as macroeconomic trends and changes in applicable taxation regimes. Concerns regarding our limited operating history, lack of profitability and that we are only the party who can perform operations and maintenance on our Energy Servers have made it difficult to attract investors in the past. Our ability to obtain additional financing in the future depends on the continued confidence of banks and other financing sources in our business model, the market for our Energy Servers, and the continued availability of tax benefits applicable to our Energy Servers. In addition, conditions in the general economy and financial and credit markets may result in the contraction of available tax equity financing. If we are unable to enter into tax equity financing agreements with attractive pricing terms, or at all, we may not be able to obtain the capital needed to fund our financing programs or use the tax benefits provided by the ITC and MACRS depreciation, which could make it more difficult for customers to finance the purchase of our Energy Servers. Such circumstances could also require us to reduce the price at which we are able to sell our Energy Servers and therefore harm our business, our financial condition, and our results of operations.

Risks Related to Legal Matters and Regulations

We are subject to various environmental laws and regulations that could impose substantial costs upon us and cause delays in the delivery and installation of our Energy Servers.

We are subject to national, state, and local environmental laws and regulations as well as environmental laws in those foreign jurisdictions in which we operate. Environmental laws and regulations can be complex and may often change. These laws can give rise to liability for administrative oversight costs, cleanup costs, property damage, bodily injury, fines, and penalties. Capital and operating expenses needed to comply with environmental laws and regulations can be significant, and violations may result in substantial fines and penalties or third-party damages. In addition, maintaining compliance with applicable environmental laws requires significant time and management resources and could cause delays in our ability to build out, equip and operate our facilities as well as service our fleet, which would adversely impact our business, our prospects, our financial condition, and our operating results. In addition, environmental laws and regulations such as the Comprehensive Environmental Response, Compensation and Liability Act in the United States impose liability on several grounds including for the investigation and cleanup of contaminated soil and ground water, for building contamination, for impacts to human health and for damages to natural resources. If contamination is discovered in the future at properties formerly owned or operated by us or currently owned or operated by us, or properties to which hazardous substances were sent by us, it could result in our liability under environmental laws and regulations. Many of our customers who purchase our Energy Servers have high sustainability standards, and any environmental noncompliance by us could harm our reputation and impact a current or potential customer’s buying decision. Additionally, in many cases we contractually commit to performing all necessary installation work on a fixed-price basis, and unanticipated costs associated with environmental remediation and/or compliance expenses may cause the cost of performing such work to exceed our revenue. The costs of complying with environmental laws, regulations, and customer requirements, and any claims concerning noncompliance or liability with respect to contamination in the future, could have a material adverse effect on our financial condition or our operating results.

The installation and operation of our Energy Servers are subject to environmental laws and regulations in various jurisdictions, and there is uncertainty with respect to the interpretation of certain environmental laws and regulations to our Energy Servers, especially as these regulations evolve over time.

Bloom is committed to compliance with applicable environmental laws and regulations including health and safety standards, and we continually review the operation of our Energy Servers for health, safety, and environmental compliance. Our Energy Servers, like other fuel cell technology-based products of which we are aware, produce small amounts of hazardous wastes and air pollutants, and we seek to address these in accordance with applicable regulatory standards.

Maintaining compliance with laws and regulations can be challenging given the changing patchwork of environmental laws and regulations that prevail at the federal, state, regional, and local level. Most existing environmental laws and regulations preceded the introduction of our innovative fuel cell technology and were adopted to apply to technologies existing at the time (i.e., large coal, oil, or gas-fired power plants). Currently, there is generally little guidance from these agencies on how certain environmental laws and regulations may or may not be applied to our technology.

For example, natural gas, which is the primary fuel used in our Energy Servers, contains benzene, which is classified as a hazardous waste if it exceeds 0.5 milligrams per liter. A small amount of benzene found in the public natural gas supply (equivalent to what is present in one gallon of gasoline in an automobile fuel tank, which are exempt from federal regulation) is collected by the gas cleaning units contained in our Energy Servers that are typically replaced once every 15 to 36 months by us from customers' sites. From 2010 to late 2016 and in the regular course of maintenance of the Energy Servers, we periodically replaced the units in our servers relying upon a federal environmental exemption that permitted the handling of such units without manifesting the contents as containing a hazardous waste. Although over the years and with the approval of two states, we believed that we operated under the exemption, the U.S. Environmental Protection Agency ("EPA") issued guidance for the first time in late 2016 that differed from our belief and conflicted with the state approvals we had obtained. We have complied with the new guidance and, given the comparatively small quantities of benzene produced, we do not anticipate significant additional costs or risks from our compliance with the revised 2016 guidance. However, EPA has asked us to show cause why it should not collect approximately $1.0 million in fines from us for the prior period. In order to put this matter behind us and with no admission of law or fact, we agreed to a consent agreement that was ratified and incorporated by reference into a final order that was entered by an Environmental Appeals Judge for EPA's Environmental Appeals Board in May of 2020. Consistent with the consent agreement and final order, a final payment was made in the fourth quarter of 2020 and EPA has confirmed the matter is formally resolved. Additionally, a nominal penalty was paid to a state agency under that state's environmental laws relating to the operation of our Energy Server under the exemption prior to the issuance of the revised EPA guidance.

Another example relates to the very small amounts of chromium in hexavalent form ("CR+6"), which our Energy Servers emit at nanometer scale. This occurs any time a steel super alloy is exposed to high temperatures. CR+6 is found in small concentrations in the air generally. However, exposure to high or significant concentrations over prolonged periods of time can be carcinogenic. The small amount of chromium emitted by our Energy Servers is initially in the hexavalent form, but it converts to a non-toxic trivalent form, or CR+3, rapidly after it leaves the Energy Server. In tests we have conducted, air measurements taken 10 meters from an Energy Server show that the CR+6 is largely converted.

Our Energy Servers do not present significant health hazard based on our modeling, testing methodology, and measurements. There are several supporting elements to this position including that the emissions from our Energy Servers are in very low concentrations, are emitted as nanoparticles that convert to the non-hazardous form CR+3 rapidly, are quickly dispersed into the air, and are not emitted in close proximity to locations where people would be expected to have a prolonged exposure. Nevertheless, we have engineered a technology solution that we are deploying.

Several states in which we currently operate, including California, require permits for emissions of air pollutants based on the quantity of emissions, most of which require permits only for quantities of emissions that are higher than those observed from our Energy Servers. Other states in which we operate, including New York, New Jersey, and North Carolina, have specific exemptions for fuel cells. Some states in which we operate have CR+6 limits that are an order of magnitude over our operating range. Within California, the Bay Area Air Quality Management District requires a permit for emissions that are more than 0.00051 lbs/year. Other California regulations require that levels of CR+6 be below 0.00005 $\mu g/m^3$, which is the level required by Proposition 65 and which requires notification of the presence of CR+6 unless it can be shown to be at levels that do not pose a significant health risk. We have determined that the standards applicable in California in this regard are more stringent than those in any other state or foreign location in which we have installed Energy Servers to date, therefore, deployment of our solution has been focused on California's standards.

There are generally no relevant environmental testing methodology guidelines for a technology such as ours. The standard test method for analyzing emissions cannot be readily applied to our Energy Servers because it would require inserting a probe into an emission stack. Our servers do not have emission stacks; therefore, we have to construct an artificial stack on top of our server in order to conduct a test. If we used the testing methodology similar to what the air districts have used in other large scale industrial products, it would show that we would need to reduce the emissions of CR+6 from our Energy Servers to meet the most stringent requirements. However, we employed a modified test method that is designed to capture the actual operating conditions of our Energy Servers and its distinctly different design from legacy power plants and industrial equipment. Based on our modeling, measured results and analysis, we believe we are in compliance with state of California air regulations. However, it is possible that the California Air Districts will require us to abate or shut down the operations of certain of our existing Energy Servers on a temporary basis or will seek the imposition of monetary penalties.

While we seek to comply with air quality and emission standards in every region in which we operate, it is possible that certain customers in other regions may request that we provide the new technology solution for their Energy Servers to comply with the stricter standards imposed by California . We currently plan to satisfy these requests from customers. Failure or delay in attaining regulatory approval could result in our not being able to operate in a particular local jurisdiction.

These examples illustrate that our technology is moving faster than the regulatory process in many instances. It is possible that regulators could delay or prevent us from conducting our business in some way pending agreement on, and compliance with, shifting regulatory requirements. Such actions could delay the installation of Energy Servers, could result in penalties, could require modification or replacement or could trigger claims of performance warranties and defaults under customer contracts that could require us to repurchase their Energy Servers, any of which could adversely affect our business, our financial performance, and our reputation. In addition, new laws or regulations or new interpretations of existing laws or regulations could present marketing, political or regulatory challenges and could require us to upgrade or retrofit existing equipment, which could result in materially increased capital and operating expenses.

Furthermore, we have not yet determined whether our Energy Servers will satisfy regulatory requirements in the other states in the United States and in international locations in which we do not currently sell Energy Servers but may pursue in the future.

As a technology based, in part, on fossil fuel, we may be subject to a heightened risk of regulation, to a potential for the loss of certain incentives, and to changes in our customers' energy procurement policies.

Although the current generation of our Energy Servers running on natural gas produce nearly 50% less carbon emissions compared to the average of U.S. combustion power generation, the operation of our Energy Servers does produce carbon dioxide ("CO2"), which has been shown to be a contributing factor to global climate change. As such, we may be negatively impacted by CO2-related changes in applicable laws, regulations, ordinances, rules, or the requirements of the incentive programs on which we and our customers currently rely. Changes (or a lack of change to comprehensively recognize the risks of climate change and recognize the benefit of our technology as one means to maintain reliable and resilient electric service with a lower greenhouse gas emission profile) in any of the laws, regulations, ordinances, or rules that apply to our installations and new technology could make it illegal or more costly for us or our customers to install and operate our Energy Servers on particular sites, thereby negatively affecting our ability to deliver cost savings to customers, or we could be prohibited from completing new installations or continuing to operate existing projects. Certain municipalities in California have already banned the use of distributed generation products that utilize fossil fuel. Additionally, our customers' and potential customers' energy procurement policies may prohibit or limit their willingness to procure our Energy Servers. Our business prospects may be negatively impacted if we are prevented from completing new installations or our installations become more costly as a result of laws, regulations, ordinances, or rules applicable to our Energy Servers, or by our customers' and potential customers' energy procurement policies.

Existing regulations and changes to such regulations impacting the electric power industry may create technical, regulatory, and economic barriers, which could significantly reduce demand for our Energy Servers or affect the financial performance of current sites.

The market for electricity generation products is heavily influenced by U.S. federal, state, local, and foreign government regulations and policies as well as by internal policies and regulations of electric utility providers. These regulations and policies often relate to electricity pricing and technical interconnection of customer-owned electricity generation. These regulations and policies are often modified and could continue to change, which could result in a significant reduction in demand for our Energy Servers. For example, utility companies commonly charge fees to larger industrial customers for disconnecting from the electric grid or for having the capacity to use power from the electric grid for back-up purposes. These fees could change, thereby increasing the cost to our customers of using our Energy Servers and making them less economically attractive.

In addition, our project with Delmarva Power & Light Company (the "Delaware Project") is subject to laws and regulations relating to electricity generation, transmission, and sale in Delaware and at the federal level.

A law governing the sale of electricity from the Delaware Project was necessary to implement part of several incentives that Delaware offered to us to build our major manufacturing facility ("Manufacturing Center") in Delaware. Those incentives have proven controversial in Delaware, in part because our Manufacturing Center, while a significant source of continuing manufacturing employment, has not expanded as quickly as projected. The opposition to the Delaware Project is an example of potentially material risks associated with electric power regulation.

At the federal level, FERC has authority to regulate under various federal energy regulatory laws, wholesale sales of electric energy, capacity, and ancillary services, and the delivery of natural gas in interstate commerce. Also, several of the tax equity partnerships in which we have an interest are subject to regulation under FERC with respect to market-based sales of electricity, which requires us to file notices and make other periodic filings with FERC, which increases our costs and subjects us to additional regulatory oversight.

Although we generally are not regulated as a utility, federal, state, and local government statutes and regulations concerning electricity heavily influence the market for our product and services. These statutes and regulations often relate to electricity pricing, net metering, incentives, taxation, and the rules surrounding the interconnection of customer-owned electricity generation for specific technologies. In the United States, governments frequently modify these statutes and regulations. Governments, often acting through state utility or public service commissions, change and adopt different requirements for utilities and rates for commercial customers on a regular basis. Changes, or in some cases a lack of change, in any of the laws, regulations, ordinances, or other rules that apply to our installations and new technology could make it more costly for us or our customers to install and operate our Energy Servers on particular sites and, in turn, could negatively affect our ability to deliver cost savings to customers for the purchase of electricity.

We may become subject to product liability claims, which could harm our financial condition and liquidity if we are not able to successfully defend or insure against such claims.

We may in the future become subject to product liability claims. Our Energy Servers are considered high energy systems because they use flammable fuels and may operate at 480 volts. Although our Energy Servers are certified to meet ANSI, IEEE, ASME, and NFPA design and safety standards, if an Energy Server is not properly handled in accordance with our servicing and handling standards and protocols, there could be a system failure and resulting liability. These claims could require us to incur significant costs to defend. Furthermore, any successful product liability claim could require us to pay a substantial monetary award. Moreover, a product liability claim could generate substantial negative publicity about us and our Energy Servers, which could harm our brand, our business prospects, and our operating results. Our product liability insurance may not be sufficient to cover all potential product liability claims. Any lawsuit seeking significant monetary damages either in excess of our coverage or outside of our coverage may have a material adverse effect on our business and our financial condition.

Current or future litigation or administrative proceedings could have a material adverse effect on our business, our financial condition and our results of operations.

We have been and continue to be involved in legal proceedings, administrative proceedings, claims, and other litigation that arise in the ordinary course of business. Purchases of our products have also been the subject of litigation. For information regarding pending legal proceedings, please see Part I, Item 3, *Legal Proceedings* and Note 14 - *Commitments and Contingencies* in Part II, Item 8, *Financial Statements and Supplementary Data*. In addition, since our Energy Server is a new type of product in a nascent market, we have in the past needed and may in the future need to seek the amendment of existing regulations, or in some cases the development of new regulations, in order to operate our business in some jurisdictions. Such regulatory processes may require public hearings concerning our business, which could expose us to subsequent litigation.

Unfavorable outcomes or developments relating to proceedings to which we are a party or transactions involving our products such as judgments for monetary damages, injunctions, or denial or revocation of permits, could have a material adverse effect on our business, our financial condition, and our results of operations. In addition, settlement of claims could adversely affect our financial condition and our results of operations.

Risks Related to Our Intellectual Property

Our failure to protect our intellectual property rights may undermine our competitive position, and litigation to protect our intellectual property rights may be costly.

Policing unauthorized use of proprietary technology can be difficult and expensive, and the protective measures we have taken to protect our trade secrets may not be sufficient to prevent such use. For example, many of our engineers reside in California where it is not legally permissible to prevent them from working for a competitor. Also, litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, or to determine the validity and scope of the proprietary rights of others. Such litigation may result in our intellectual property rights being challenged, limited in scope, or declared invalid or unenforceable. We cannot be certain that the outcome of any litigation will be in our favor, and an adverse determination in any such litigation could impair our intellectual property rights, our business, our prospects, and our reputation.

We rely primarily on patent, trade secret, and trademark laws and non-disclosure, confidentiality, and other types of contractual restrictions to establish, maintain, and enforce our intellectual property and proprietary rights. However, our rights under these laws and agreements afford us only limited protection and the actions we take to establish, maintain, and enforce our intellectual property rights may not be adequate. For example, our trade secrets and other confidential information could be disclosed in an unauthorized manner to third parties, our owned or licensed intellectual property rights could be challenged, invalidated, circumvented, infringed, or misappropriated or our intellectual property rights may not be sufficient to provide us with a competitive advantage, any of which could have a material adverse effect on our business, financial condition, or operating results. In addition, the laws of some countries do not protect proprietary rights as fully as do the laws of the United States. As a result, we may not be able to protect our proprietary rights adequately abroad.

In connection with our expansion into new markets, we may need to develop relationships with new partners, including project developers and/or financiers who may require access to certain of our intellectual property in order to mitigate perceived risks regarding our ability to service their projects over the contracted project duration. If we are unable to come to agreement regarding the terms of such access or find alternative means to address this perceived risk, such failure may negatively impact our ability to expand into new markets. Alternatively, we may be required to develop new strategies for the protection of our intellectual property, which may be less protective than our current strategies and could therefore erode our competitive position.

Our patent applications may not result in issued patents, and our issued patents may not provide adequate protection, either of which may have a material adverse effect on our ability to prevent others from commercially exploiting products similar to ours.

We cannot be certain that our pending patent applications will result in issued patents or that any of our issued patents will afford protection against a competitor. The status of patents involves complex legal and factual questions, and the breadth of claims allowed is uncertain. As a result, we cannot be certain that the patent applications that we file will result in patents being issued or that our patents and any patents that may be issued to us in the future will afford protection against competitors with similar technology. In addition, patent applications filed in foreign countries are subject to laws, rules, and procedures that differ from those of the United States, and thus we cannot be certain that foreign patent applications related to issued U.S.

patents will be issued in other regions. Furthermore, even if these patent applications are accepted and the associated patents issued, some foreign countries provide significantly less effective patent enforcement than in the United States.

In addition, patents issued to us may be infringed upon or designed around by others and others may obtain patents that we need to license or design around, either of which would increase costs and may adversely affect our business, our prospects, and our operating results.

We may need to defend ourselves against claims that we infringed, misappropriated, or otherwise violated the intellectual property rights of others, which may be time-consuming and would cause us to incur substantial costs.

Companies, organizations, or individuals, including our competitors, may hold or obtain patents, trademarks, or other proprietary rights that they may in the future believe are infringed by our products or services. These companies holding patents or other intellectual property rights allegedly relating to our technologies could, in the future, make claims or bring suits alleging infringement, misappropriation, or other violations of such rights, or otherwise assert their rights and by seeking licenses or injunctions. Several of the proprietary components used in our Energy Servers have been subjected to infringement challenges in the past. We also generally indemnify our customers against claims that the products we supply don't infringe, misappropriate, or otherwise violate third party intellectual property rights, and we therefore may be required to defend our customers against such claims. If a claim is successfully brought in the future and we or our products are determined to have infringed, misappropriated, or otherwise violated a third party's intellectual property rights, we may be required to do one or more of the following:

- cease selling or using our products that incorporate the challenged intellectual property;
- pay substantial damages (including treble damages and attorneys' fees if our infringement is determined to be willful);
- obtain a license from the holder of the intellectual property right, which may not be available on reasonable terms or at all; or
- redesign our products or means of production, which may not be possible or cost-effective.

Any of the foregoing could adversely affect our business, prospects, operating results, and financial condition. In addition, any litigation or claims, whether or not valid, could harm our reputation, result in substantial costs and divert resources and management attention.

We also license technology from third parties and incorporate components supplied by third parties into our products. We may face claims that our use of such technology or components infringes or otherwise violates the rights of others, which would subject us to the risks described above. We may seek indemnification from our licensors or suppliers under our contracts with them, but our rights to indemnification or our suppliers' resources may be unavailable or insufficient to cover our costs and losses.

Risks Related to Our Financial Condition and Operating Results

We have incurred significant losses in the past and we may not be profitable for the foreseeable future.

Since our inception in 2001, we have incurred significant net losses and have used significant cash in our business. As of December 31, 2020, we had an accumulated deficit of $3.1 billion. We expect to continue to expand our operations, including by investing in manufacturing, sales and marketing, research and development, staffing systems, and infrastructure to support our growth. We anticipate that we will incur net losses for the foreseeable future. Our ability to achieve profitability in the future will depend on a number of factors, including:

- growing our sales volume;
- increasing sales to existing customers and attracting new customers;
- expanding into new geographical markets and industry market sectors;
- attracting and retaining financing partners who are willing to provide financing for sales on a timely basis and with attractive terms;
- continuing to improve the useful life of our fuel cell technology and reducing our warranty servicing costs;

- reducing the cost of producing our Energy Servers;
- improving the efficiency and predictability of our installation process;
- improving the effectiveness of our sales and marketing activities;
- attracting and retaining key talent in a competitive marketplace; and
- the amount of stock-based compensation recognized in the period.

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

Our financial condition and results of operations and other key metrics are likely to fluctuate on a quarterly basis in future periods, which could cause our results for a particular period to fall below expectations, resulting in a severe decline in the price of our Class A common stock.

Our financial condition and results of operations and other key metrics have fluctuated significantly in the past and may continue to fluctuate in the future due to a variety of factors, many of which are beyond our control. For example, the amount of product revenue we recognize in a given period is materially dependent on the volume of installations of our Energy Servers in that period and the type of financing used by the customer.

In addition to the other risks described herein, the following factors could also cause our financial condition and results of operations to fluctuate on a quarterly basis:

- the timing of installations, which may depend on many factors such as availability of inventory, product quality or performance issues, or local permitting requirements, utility requirements, environmental, health, and safety requirements, weather, the COVID-19 pandemic or such other health emergency, and customer facility construction schedules;
- size of particular installations and number of sites involved in any particular quarter;
- the mix in the type of purchase or financing options used by customers in a period, the geographical mix of customer sales, and the rates of return required by financing parties in such period;
- whether we are able to structure our sales agreements in a manner that would allow for the product and installation revenue to be recognized upfront at acceptance;
- delays or cancellations of Energy Server installations;
- fluctuations in our service costs, particularly due to unexpected costs of servicing and maintaining Energy Servers;
- weaker than anticipated demand for our Energy Servers due to changes in government incentives and policies or due to other conditions;
- fluctuations in our research and development expense, including periodic increases associated with the pre-production qualification of additional tools as we expand our production capacity;
- interruptions in our supply chain;
- the length of the sales and installation cycle for a particular customer;
- the timing and level of additional purchases by existing customers;
- unanticipated expenses or installation delays associated with changes in governmental regulations, permitting requirements by local authorities at particular sites, utility requirements and environmental, health, and safety requirements;
- disruptions in our sales, production, service or other business activities resulting from disagreements with our labor force or our inability to attract and retain qualified personnel; and
- unanticipated changes in federal, state, local, or foreign government incentive programs available for us, our customers, and tax equity financing parties.

Fluctuations in our operating results and cash flow could, among other things, give rise to short-term liquidity issues. In addition, our revenue, key operating metrics, and other operating results in future quarters may fall short of our projections or the expectations of investors and financial analysts, which could have an adverse effect on the price of our Class A common stock.

If we fail to manage our growth effectively, our business and operating results may suffer.

Our current growth and future growth plans may make it difficult for us to efficiently operate our business, challenging us to effectively manage our capital expenditures and control our costs while we expand our operations to increase our revenue. If we experience a significant growth in orders without improvements in automation and efficiency, we may need additional manufacturing capacity and we and some of our suppliers may need additional and capital intensive equipment. Any growth in manufacturing must include a scaling of quality control as the increase in production increases the possible impact of manufacturing defects. In addition, any growth in the volume of sales of our Energy Servers may outpace our ability to engage sufficient and experienced personnel to manage the higher number of installations and to engage contractors to complete installations on a timely basis and in accordance with our expectations and standards. Any failure to manage our growth effectively could materially and adversely affect our business, our prospects, our operating results, and our financial condition. Our future operating results depend to a large extent on our ability to manage this expansion and growth successfully.

The accounting treatment related to our revenue-generating transactions is complex, and if we are unable to attract and retain highly qualified accounting personnel to evaluate the accounting implications of our complex or non-routine transactions, our ability to accurately report our financial results may be harmed.

Our revenue-generating transactions include the Traditional Lease, Managed Services Financings, sales to international channel partners, and Portfolio Financings, all of which are accounted for differently in our consolidated financial statements. Many of the accounting rules related to our financing transactions are complex and require experienced and highly skilled personnel to review and interpret the proper accounting treatment with respect thereto. Competition for senior finance and accounting personnel in the San Francisco Bay Area who have public company reporting experience is intense, and if we are unable to recruit and retain personnel with the required level of expertise to evaluate and accurately classify our revenue-producing transactions, our ability to accurately report our financial results may be harmed.

In our Annual Report on Form 10-K for the year ended December 31, 2019, we reached a determination to restate certain of our previously issued consolidated financial statements as a result of the identification of material misstatements in previously issued consolidated financial statements, which resulted in unanticipated costs and may affect investor confidence and raise reputational issues.

In our Annual Report on Form 10-K for the year ended December 31, 2019, we reached a determination to restate our consolidated financial statements and related disclosures for the periods disclosed after misstatements in our accounting treatment of some of our complex or non-routine transactions were identified. The restatement also included corrections for previously identified immaterial uncorrected misstatements in the impacted periods. As a result, we have incurred unanticipated costs for accounting and legal fees in connection with or related to the restatement, and have become subject to a number of additional risks and uncertainties, which may affect investor confidence in the accuracy of our financial disclosures and may raise reputational risks for our business.

We identified a material weakness in our internal control over financial reporting at December 31, 2019 related to the accounting for and disclosure of complex or non-routine transactions, which has been remediated. If we otherwise fail to maintain effective internal control over financial reporting, our ability to report our financial results on a timely and an accurate basis may adversely affect the market price of our Class A common stock.

The Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley Act") requires, among other things, that public companies evaluate the effectiveness of their internal control over financial reporting and disclosure controls and procedures. This Annual Report on Form 10-K is the first year that we were required to adopt the requirements under Section 404B of the Sarbanes-Oxley Act. Notwithstanding the requirements of Section 404B of the Sarbanes-Oxley Act, as disclosed in our Annual Report on Form 10-K for the year ended December 31, 2019, material misstatements were identified in our accounting treatment of some of our complex or non-routine transactions and concluded that certain prior periods were materially misstated and thus we were required to restate the periods impacted. As a result of the restatement, we determined that we had a material weakness in internal control over financial reporting at December 31, 2019, as we did not design and maintain an effective control environment with a sufficient complement of resources with an appropriate level of accounting knowledge, expertise and training to evaluate the accounting for and disclosure of complex or non-routine transactions commensurate with our financial reporting requirements. Please see Part II, Item 9A, *Controls and Procedures* in this Annual Report on Form 10-K for additional information regarding the identified material weakness and our actions to remediate the material weakness.

In order to comply with Section 404B, we may incur substantial costs, expend significant management time on compliance-related issues, and need to hire additional accounting, financial, and internal audit staff with appropriate public company experience and technical accounting knowledge. Moreover, if we are not able to comply with the requirements of Section 404B in a timely manner or if we or our independent registered public accounting firm identify deficiencies in our internal control over financial reporting that are deemed to be material weaknesses, we could be subject to sanctions or investigations by the SEC or other regulatory authorities, which would require additional financial and management resources. Any failure to maintain effective disclosure controls and procedures or internal control over financial reporting could have a material adverse effect on our business and operating results and cause a decline in the price of our Class A common stock.

Our ability to use our deferred tax assets to offset future taxable income may be subject to limitations that could subject our business to higher tax liability.

We may be limited in the portion of net operating loss carryforwards ("NOLs") that we can use in the future to offset taxable income for U.S. federal and state income tax purposes. Our NOLs will expire, if unused, beginning in 2022 and 2028, respectively. A lack of future taxable income would adversely affect our ability to utilize these NOLs. In addition, under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), a corporation that undergoes an “ownership change” is subject to limitations on its ability to utilize its NOLs to offset future taxable income. Changes in our stock ownership as well as other changes that may be outside of our control could result in ownership changes under Section 382 of the Code, which could cause our NOLs to be subject to certain limitations. Our NOLs may also be impaired under similar provisions of state law. Our deferred tax assets, which are currently fully reserved with a valuation allowance, may expire unutilized or underutilized, which could prevent us from offsetting future taxable income.

Risks Related to Our Liquidity

We must maintain the confidence of our customers in our liquidity, including in our ability to timely service our debt obligations and in our ability to grow our business over the long-term.

Currently, we are the only provider able to fully support and maintain our Energy Servers. If potential customers believe we do not have sufficient capital or liquidity to operate our business over the long-term or that we will be unable to maintain their Energy Servers and provide satisfactory support, customers may be less likely to purchase or lease our products, particularly in light of the significant financial commitment required. In addition, financing sources may be unwilling to provide financing on reasonable terms. Similarly, suppliers, financing partners, and other third parties may be less likely to invest time and resources in developing business relationships with us if they have concerns about the success of our business.

Accordingly, in order to grow our business, we must maintain confidence in our liquidity and long-term business prospects among customers, suppliers, financing partners, and other parties. This may be particularly complicated by factors such as:

- our limited operating history at a large scale;
- the size of our debt obligations;
- our lack of profitability;
- unfamiliarity with or uncertainty about our Energy Servers and the overall perception of the distributed generation market;
- prices for electricity or natural gas in particular markets;
- competition from alternate sources of energy;
- warranty or unanticipated service issues we may experience;
- the environmental consciousness and perceived value of environmental programs to our customers;
- the size of our expansion plans in comparison to our existing capital base and the scope and history of operations;
- the availability and amount of tax incentives, credits, subsidies or other incentive programs; and

- the other factors set forth in this “Risk Factors” section.

Several of these factors are largely outside our control, and any negative perceptions about our liquidity or long-term business prospects, even if unfounded, would likely harm our business.

Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities’ outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs.

As of December 31, 2020, we and our subsidiaries had approximately $390.9 million of total consolidated indebtedness, of which an aggregate of $168.0 million represented indebtedness that is recourse to us, all of which is classified as non-current. Of this $168.0 million in debt, $68.6 million represented debt under our 10.25% Senior Secured Notes (the "10.25% Senior Secured Notes"), and $99.4 million represented debt under the $230.0 million aggregate principal amount of our 2.50% Green Convertible Senior Notes due 2025 (the "Green Notes"). In addition, our PPA Entities’ (defined herein) outstanding indebtedness of $222.9 million represented indebtedness that is non-recourse to us. For a description and definition of PPA Entities, please see Part II, Item 7, *Management’s Discussion and Analysis – Purchase and Lease Options – Portfolio Financings*. The agreements governing our and our PPA Entities’ outstanding indebtedness contain, and other future debt agreements may contain, covenants imposing operating and financial restrictions on our business that limit our flexibility including, among other things:

- borrow money;
- pay dividends or make other distributions;
- incur liens;
- make asset dispositions;
- make loans or investments;
- issue or sell share capital of our subsidiaries;
- issue guaranties;
- enter into transactions with affiliates;
- merge, consolidate or sell, lease or transfer all or substantially all of our assets;
- require us to dedicate a substantial portion of cash flow from operations to the payment of principal and interest on indebtedness, thereby reducing the funds available for other purposes such as working capital and capital expenditures;
- make it more difficult for us to satisfy and comply with our obligations with respect to our indebtedness;
- subject us to increased sensitivity to interest rate increases;
- make us more vulnerable to economic downturns, adverse industry conditions, or catastrophic external events;
- limit our ability to withstand competitive pressures;
- limit our ability to invest in new business subsidiaries that are not PPA Entity-related;
- reduce our flexibility in planning for or responding to changing business, industry, and economic conditions; and/or
- place us at a competitive disadvantage to competitors that have relatively less debt than we have.

Our PPA Entities’ debt agreements require the maintenance of financial ratios or the satisfaction of financial tests such as debt service coverage ratios and consolidated leverage ratios. Our PPA Entities’ ability to meet these financial ratios and tests may be affected by events beyond our control and, as a result, we cannot assure you that we will be able to meet these ratios and tests.

Upon the occurrence of certain events to us, including a change in control, a significant asset sale or merger or similar transaction, our liquidation or dissolution or the cessation of our stock exchange listing, each of which may constitute a fundamental change under the outstanding notes, holders of certain of the notes have the right to cause us to repurchase for cash any or all of such outstanding notes. We cannot provide assurance that we would have sufficient liquidity to repurchase such notes. Furthermore, our financing and debt agreements contain events of default. If an event of default were to occur, the trustee or the lenders could, among other things, terminate their commitments and declare outstanding amounts due and payable and our cash may become restricted. We cannot provide assurance that we would have sufficient liquidity to repay or refinance our indebtedness if such amounts were accelerated upon an event of default. Borrowings under other debt instruments that contain cross-acceleration or cross-default provisions may, as a result, be accelerated and become due and payable as a consequence. We may be unable to pay these debts in such circumstances. We cannot provide assurance that the operating and financial restrictions and covenants in these agreements will not adversely affect our ability to finance our future operations or capital needs, or our ability to engage in other business activities that may be in our interest or our ability to react to adverse market developments.

As of December 31, 2020, we and our subsidiaries have approximately $390.9 million of total consolidated indebtedness, including $120.8 million in short-term debt and $270.1 million in long-term debt. Given our substantial level of indebtedness, it may be difficult for us to secure additional debt financing at an attractive cost, which may in turn impact our ability to expand our operations and our product development activities and to remain competitive in the market.

Our liquidity needs could vary significantly and may be affected by general economic conditions, industry trends, performance, and many other factors not within our control.

We may not be able to generate sufficient cash to meet our debt service obligations.

Our ability to generate sufficient cash to make scheduled payments on our debt obligations will depend on our future financial performance and on our future cash flow performance, which will be affected by a range of economic, competitive, and business factors, many of which are outside of our control.

We finance a significant volume of Energy Servers and receive equity distributions from certain of the PPA Entities that purchase the Energy Servers and other project intangibles through a series of milestone payments. The milestone payments and equity distributions contribute to our cash flow. These PPA Entities are separate and distinct legal entities, do not guarantee our debt obligations, and have no obligation, contingent or otherwise, to pay amounts due under our debt obligations or to make any funds available to pay those amounts, whether by dividend, distribution, loan, or other payments. It is possible that the PPA Entities may not contribute significant cash to us.

If we do not generate sufficient cash to satisfy our debt obligations, including interest payments, or if we are unable to satisfy the requirement for the payment of principal at maturity or other payments that may be required from time to time under the terms of our debt instruments, we may have to undertake alternative financing plans such as refinancing or restructuring our debt, selling assets, reducing or delaying capital investments, or seeking to raise additional capital. We cannot provide assurance that any refinancing or restructuring would be possible, that any assets could be sold, or, if sold, of the timing of the sales and the amount of proceeds realized from those sales, that additional financing could be obtained on acceptable terms, if at all, or that additional financing would be available or permitted under the terms of our various debt instruments then in effect. Furthermore, the ability to refinance indebtedness would depend upon the condition of the finance and credit markets at the time which have in the past been, and may in the future be, volatile. Our inability to generate sufficient cash to satisfy our debt obligations or to refinance our obligations on commercially reasonable terms or on a timely basis would have an adverse effect on our business, our results of operations and our financial condition.

Under some circumstances, we may be required to or elect to make additional payments to our PPA Entities or the Equity Investors.

Three of our PPA Entities are structured in a manner such that, other than the amount of any equity investment we have made, we do not have any further primary liability for the debts or other obligations of the PPA Entities. All of our PPA Entities that operate Energy Servers for end customers have significant restrictions on their ability to incur increased operating costs, or could face events of default under debt or other investment agreements if end customers are not able to meet their payment obligations under PPAs or if Energy Servers are not deployed in accordance with the project’s schedule. In three cases, if our PPA Entities experience unexpected, increased costs such as insurance costs, interest expense or taxes or as a result of the acceleration of repayment of outstanding indebtedness, or if end customers are unable or unwilling to continue to purchase power under their PPAs, there could be insufficient cash generated from the project to meet the debt service obligations of the PPA Entity or to meet any targeted rates of return of Equity Investors. If a PPA Entity fails to make required debt service payments, this could constitute an event of default and entitle the lender to foreclose on the collateral securing the debt or could trigger other payment obligations of the PPA Entity. To avoid this, we could choose to contribute additional capital to the applicable PPA Entity to enable such PPA Entity to make payments to avoid an event of default, which could adversely affect our business or our financial condition. Under PPA IV's note purchase agreement, PPA IV is obligated to offer to repay all outstanding debt in the event that at any time we fail to own (directly or indirectly) at least 50.1% of the equity interest of PPA IV not owned by the Equity Investor(s). Upon receipt of such offer, the lenders may waive that obligation or elect to require PPA IV to prepay all remaining amounts owed under PPA IV's project debt. The obligations under PPA IV have not been triggered as of December 31, 2020.

Risks Related to Our Operations

We may have conflicts of interest with our PPA Entities.

In most of our PPA Entities, we act as the managing member and are responsible for the day-to-day administration of the project. However, we are also a major service provider for each PPA Entity in our capacity as the operator of the Energy Servers under an operations and maintenance agreement. Because we are both the administrator and the manager of our PPA Entities, as well as a major service provider, we face a potential conflict of interest in that we may be obligated to enforce contractual rights that a PPA Entity has against us in our capacity as a service provider. By way of example, a PPA Entity may have a right to payment from us under a warranty provided under the applicable operations and maintenance agreement, and we may be financially motivated to avoid or delay this liability by failing to promptly enforce this right on behalf of the PPA Entity. While we do not believe that we had any conflicts of interest with our PPA Entities as of December 31, 2020, conflicts of interest may arise in the future that cannot be foreseen at this time. In the event that prospective future Equity Investors and debt financing partners perceive there to exist any such conflicts, it could harm our ability to procure financing for our PPA Entities in the future, which could have a material adverse effect on our business.

Expanding operations internationally could expose us to additional risks.

Although we currently primarily operate in the United States, we continue to expand our business internationally. We currently have operations in Japan, China, India, and the Republic of Korea (collectively, our "Asia Pacific region"). Managing any international expansion will require additional resources and controls including additional manufacturing and assembly facilities. Any expansion internationally could subject our business to risks associated with international operations, including:

- conformity with applicable business customs, including translation into foreign languages and associated expenses;
- lack of availability of government incentives and subsidies;
- challenges in arranging, and availability of, financing for our customers;
- potential changes to our established business model;
- cost of alternative power sources, which could be meaningfully lower outside the United States;
- availability and cost of natural gas;
- difficulties in staffing and managing foreign operations in an environment of diverse culture, laws, and customers, and the increased travel, infrastructure, and legal and compliance costs associated with international operations;
- installation challenges which we have not encountered before which may require the development of a unique model for each country;
- compliance with multiple, potentially conflicting and changing governmental laws, regulations, and permitting processes including environmental, banking, employment, tax, privacy, and data protection laws and regulations such as the EU Data Privacy Directive;
- compliance with U.S. and foreign anti-bribery laws including the Foreign Corrupt Practices Act and the U.K. Anti-Bribery Act;
- greater difficulties in securing or enforcing our intellectual property rights in certain jurisdictions;
- difficulties in collecting payments in foreign currencies and associated foreign currency exposure;
- restrictions on repatriation of earnings;

- compliance with potentially conflicting and changing laws of taxing jurisdictions where we conduct business and compliance with applicable U.S. tax laws as they relate to international operations, the complexity and adverse consequences of such tax laws, and potentially adverse tax consequences due to changes in such tax laws; and
- regional economic and political conditions.

As a result of these risks, any potential future international expansion efforts that we may undertake may not be successful.

If we are unable to attract and retain key employees and hire qualified management, technical, engineering, and sales personnel, our ability to compete and successfully grow our business could be harmed.

We believe that our success and our ability to reach our strategic objectives are highly dependent on the contributions of our key management, technical, engineering, and sales personnel. The loss of the services of any of our key employees could disrupt our operations, delay the development and introduction of our products and services and negatively impact our business, prospects, and operating results. In particular, we are highly dependent on the services of Dr. Sridhar, our Founder, President, Chief Executive Officer and Director, and other key employees. None of our key employees is bound by an employment agreement for any specific term. We cannot assure you that we will be able to successfully attract and retain senior leadership necessary to grow our business. Furthermore, there is increasing competition for talented individuals in our field, and competition for qualified personnel is especially intense in the San Francisco Bay Area where our principal offices are located. Our failure to attract and retain our executive officers and other key management, technical, engineering, and sales personnel could adversely impact our business, our prospects, our financial condition, and our operating results. In addition, we do not have “key person” life insurance policies covering any of our officers or other key employees.

A breach or failure of our networks or computer or data management systems could damage our operations and our reputation.

Our business is dependent on the security and efficacy of our networks and computer and data management systems. For example, all of our Energy Servers are connected to and controlled and monitored by our centralized remote monitoring service, and we rely on our internal computer networks for many of the systems we use to operate our business generally. The security of our infrastructure, including the network that connects our Energy Servers to our remote monitoring service, may be vulnerable to breaches, unauthorized access, misuse, computer viruses, or other malicious code and cyber-attacks that could have a material adverse impact on our business and our Energy Servers in the field, and the protective measures we have taken may be insufficient to prevent such events. A breach or failure of our networks or computer or data management systems due to intentional actions such as cyber-attacks, negligence, or other reasons could seriously disrupt our operations or could affect our ability to control or to assess the performance in the field of our Energy Servers and could result in disruption to our business and potentially legal liability. In addition, if certain of our IT systems failed, our production line might be affected, which could impact our business and operating results. These events, in addition to impacting our financial results, could result in significant costs or reputational consequences.

Our headquarters and other facilities are located in an active earthquake zone, and an earthquake or other types of natural disasters or resource shortages, including public safety power shut-offs that have occurred and will continue to occur in California, could disrupt and harm our results of operations.

We conduct a majority of our operations in the San Francisco Bay area in an active earthquake zone, and certain of our facilities are located within known flood plains. The occurrence of a natural disaster such as an earthquake, drought, flood, fire, localized extended outages of critical utilities (such as California's public safety power shut-offs) or transportation systems, or any critical resource shortages could cause a significant interruption in our business, damage or destroy our facilities, our manufacturing equipment, or our inventory, and cause us to incur significant costs, any of which could harm our business, our financial condition, and our results of operations. The insurance we maintain against fires, earthquakes and other natural disasters may not be adequate to cover our losses in any particular case.

Risks Related to Ownership of Our Common Stock

The stock price of our Class A common stock has been and may continue to be volatile.

The market price of our Class A common stock has been and may continue to be volatile. In addition to factors discussed in this Risk Factors section, the market price of our Class A common stock may fluctuate significantly in response to numerous factors, many of which are beyond our control, including:

- overall performance of the equity markets;
- actual or anticipated fluctuations in our revenue and other operating results;
- changes in the financial projections we may provide to the public or our failure to meet these projections;
- failure of securities analysts to initiate or maintain coverage of us, changes in financial estimates by any securities analysts who follow us or our failure to meet these estimates or the expectations of investors;
- the issuance of reports from short sellers that may negatively impact the trading price of our Class A common stock;
- recruitment or departure of key personnel;
- the economy as a whole and market conditions in our industry;
- new laws, regulations, subsidies, or credits or new interpretations of them applicable to our business;
- negative publicity related to problems in our manufacturing or the real or perceived quality of our products;
- rumors and market speculation involving us or other companies in our industry;
- announcements by us or our competitors of significant technical innovations, acquisitions, strategic partnerships, or capital commitments;
- lawsuits threatened or filed against us;
- other events or factors including those resulting from war, incidents of terrorism or responses to these events; and
- sales or anticipated sales of shares of our Class A common stock by us or our stockholders.

In addition, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. Stock prices of many companies have fluctuated in a manner unrelated or disproportionate to the operating performance of those companies. In the past, stockholders have instituted securities class action litigation following periods of market volatility. We are currently involved in securities litigation, which may subject us to substantial costs, divert resources and the attention of management from our business, and adversely affect our business.

The dual class structure of our common stock and the voting agreements among certain stockholders have the effect of concentrating voting control of our Company with KR Sridhar, our Chairman and Chief Executive Officer, and also with those stockholders who held our capital stock prior to the completion of our initial public offering ("IPO") including our directors, executive officers and significant stockholders, which limits or precludes your ability to influence corporate matters including the election of directors and the approval of any change of control transaction, and may adversely affect the trading price of our Class A common stock.

Our Class B common stock has ten votes per share, and our Class A common stock has one vote per share. As of December 31, 2020, and after giving effect to the voting agreements between KR Sridhar, our Chairman and Chief Executive Officer, and certain holders of Class B common stock, our directors, executive officers, significant stockholders of our common stock, and their respective affiliates collectively held a majority of the voting power of our capital stock. Because of the ten-to-one voting ratio between our Class B and Class A common stock, the holders of our Class B common stock collectively will continue to control a majority of the combined voting power of our common stock and therefore are able to control all matters submitted to our stockholders for approval until the earliest to occur of (i) immediately prior to the close of business on July 27, 2023, (ii) immediately prior to the close of business on the date on which the outstanding shares of Class B common stock represent less than five percent (5%) of the aggregate number of shares of Class A common stock and Class B common stock then outstanding, (iii) the date and time or the occurrence of an event specified in a written conversion election delivered by KR Sridhar to our Secretary or Chairman of the Board to so convert all shares of Class B common stock, or (iv) immediately following the date of the death of KR Sridhar. This concentrated control limits or precludes Class A stockholders' ability to influence corporate matters while the dual class structure remains in effect, including the election of directors, amendments of our organizational documents, and any merger, consolidation, sale of all or substantially all of our assets, or other major corporate transaction requiring stockholder approval. In addition, this may prevent or discourage unsolicited acquisition proposals or offers for our capital stock that Class A stockholders may feel are in their best interest as one of our stockholders.

Future transfers by holders of Class B common stock will generally result in those shares converting to Class A common stock, subject to limited exceptions such as certain transfers effected for estate planning purposes. The conversion of Class B common stock to Class A common stock will have the effect, over time, of increasing the relative voting power of those remaining holders of Class B common stock who retain their shares in the long-term.

We may issue additional shares of our Class A common stock in connection with any future conversion of the Green Notes and thereby dilute our existing stockholders and potentially adversely affect the market price of our Class A common stock.

In the event that some or all of the Green Notes are converted and we elect to deliver shares of common stock, the ownership interests of existing stockholders will be diluted, and any sales in the public market of any shares of our Class A common stock issuable upon such conversion could adversely affect the prevailing market price of our Class A common stock. If we were not able to pay cash upon conversion of the Green Notes, the issuance of shares of Class A common stock upon conversion of the Green Notes could depress the market price of our Class A common stock.

The dual class structure of our common stock may adversely affect the trading market for our Class A common stock.

S&P Dow Jones and FTSE Russell have implemented changes to their eligibility criteria for inclusion of shares of public companies on certain indices, including the S&P 500, namely, to exclude companies with multiple classes of shares of common stock from being added to such indices. In addition, several shareholder advisory firms have announced their opposition to the use of multiple class structures. As a result, the dual class structure of our common stock may prevent the inclusion of our Class A common stock in such indices and has caused shareholder advisory firms to publish negative commentary about our corporate governance practices or otherwise seek to cause us to change our capital structure. Any such exclusion from indices could result in a less active trading market for our Class A common stock. Any actions or publications by shareholder advisory firms critical of our corporate governance practices or capital structure could also adversely affect the value of our Class A common stock.

Sales of substantial amounts of our Class A common stock in the public markets, or the perception that they might occur, could cause the market price of our Class A common stock to decline.

The market price of our Class A common stock could decline as a result of sales of a large number of shares of our Class A common stock in the public market as and when our Class B common stock converts to Class A common stock. The perception that these sales might occur may also cause the market price of our common stock to decline. We had a total of 140,094,633 shares of our Class A common stock and 27,908,093 shares of our Class B common stock outstanding as of December 31, 2020.

In addition, as of December 31, 2020, we had stock options, restricted stock units ("RSUs") and performance-based stock units ("PSUs") outstanding that, if fully exercised or settled, would result in the issuance of 11,125,577 shares of Class A common stock and 10,647,482 shares of Class B common stock.

We do not intend to pay dividends for the foreseeable future.

We have never declared or paid any cash dividends on our capital stock and do not intend to pay any cash dividends in the foreseeable future. We anticipate that we will retain all of our future earnings for use in the development of our business and for general corporate purposes. Any determination to pay dividends in the future will be at the discretion of our board of directors. Accordingly, investors must rely on sales of their Class A common stock after price appreciation, which may never occur, as the only way to realize any future gains on their investments.

Provisions in our charter documents and under Delaware law could make an acquisition of us more difficult, may limit attempts by our stockholders to replace or remove our current management, may limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers, or employees, and may limit the market price of our Class A common stock.

Provisions in our restated certificate of incorporation and amended and restated bylaws may have the effect of delaying or preventing a change of control or changes in our management. Our restated certificate of incorporation and amended and restated bylaws include provisions that:

- require that our board of directors is classified into three classes of directors with staggered three year terms;
- permit the board of directors to establish the number of directors and fill any vacancies and newly created directorships;
- require super-majority voting to amend some provisions in our restated certificate of incorporation and amended and restated bylaws;
- authorize the issuance of "blank check" preferred stock that our board of directors could use to implement a stockholder rights plan;
- only the chairman of our board of directors, our chief executive officer, or a majority of our board of directors are authorized to call a special meeting of stockholders;
- prohibit stockholder action by written consent, which thereby requires all stockholder actions be taken at a meeting of our stockholders;
- establish a dual class common stock structure in which holders of our Class B common stock may have the ability to control the outcome of matters requiring stockholder approval even if they own significantly less than a majority of the outstanding shares of our common stock, including the election of directors and significant corporate transactions such as a merger or other sale of our Company or substantially all of our assets;
- expressly authorize the board of directors to make, alter, or repeal our bylaws; and
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted upon by stockholders at annual stockholder meetings.

In addition, our restated certificate of incorporation and our amended and restated bylaws provide 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; any action asserting a claim against us arising pursuant to the Delaware General Corporation Law, our restated certificate of incorporation or our amended and restated bylaws; or any action asserting a claim against us that is governed by the internal affairs doctrine. Our restated certificate of incorporation and our amended and restated bylaws provide that unless we consent in writing to the selection of an alternative forum, the federal district courts of the United States of America shall be the exclusive forum for the resolution of any complaint asserting a cause of action arising under the Securities Act. These choice of forum provisions may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or any of our directors, officers, or other employees, which thereby may discourage lawsuits with respect to such claims. Alternatively, if a court were to find the choice of forum provision contained in our restated certificate of incorporation and our amended and restated bylaws to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, our operating results, and our financial condition.

Moreover, Section 203 of the Delaware General Corporation Law may discourage, delay, or prevent a change in control of our Company. Section 203 imposes certain restrictions on mergers, business combinations, and other transactions between us and holders of 15% or more of our common stock.

ITEM 1B - UNRESOLVED STAFF COMMENTS

None.

ITEM 2 - PROPERTIES

The table below presents details for our principal properties:

Facility	Location	Approximate Square Footage	Held	Lease Term
Corporate headquarters[1]	San Jose, CA	181,000	Leased	2028
Manufacturing, research and development	Sunnyvale, CA	192.975	Leased	*
Manufacturing, research and development	Mountain View, CA	88,290	Leased	**
Manufacturing, research and development	Fremont, CA	89,336	Leased	2027
Manufacturing	Newark, DE	148,809	Leased	***
Manufacturing[2]	Newark, DE	75,609	Owned	n/a

* Lease terms expire over the period April 2021 through December 2023.

** Month to month arrangement.

*** Lease terms expire over the period December 2021 through December 2026.

[1] Our corporate headquarters is used for administration, research and development, and sales and marketing.

[2] Our first purpose-built Bloom Energy manufacturing center for the fuel cells and Energy Servers assembly, and was designed specifically for copy-exact duplication as we expand, which we believe will help us scale more efficiently.

We lease additional office space as field offices in the United States and office and manufacturing space around the world including in China, India, the Republic of Korea, Taiwan and the United Arab Emirates.

Due to growth in 2020, our current manufacturing facilities in California are no longer sufficient and we are in the process of moving all our manufacturing facilities in California into one facility. We believe this will address current capacity constraints and provide for additional capacity necessary for future growth.

ITEM 3 - LEGAL PROCEEDINGS

For a discussion of legal proceedings, see Note 14 - *Commitments and Contingencies* in Part I, Item 8, *Financial Statements and Supplementary Data - Legal Matters*.

We are, and from time to time we may become, involved in legal proceedings or be subject to claims arising in the ordinary course of our business. We are not presently a party to any other legal proceedings that in the opinion of our management and if determined adversely to us, would individually or taken together have a material adverse effect on our business, operating results, financial condition or cash flows.

ITEM 4 - MINE SAFETY DISCLOSURES

Not applicable.

Part II

ITEM 5 - MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDERS MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our Class A common stock is listed on The New York Stock Exchange ("NYSE") under the symbol “BE”. There is no public trading market for our Class B common stock. On February 18, 2021, there were 509 registered holders of record of our Class A common stock and 254 registered holders of record of our Class B common stock.

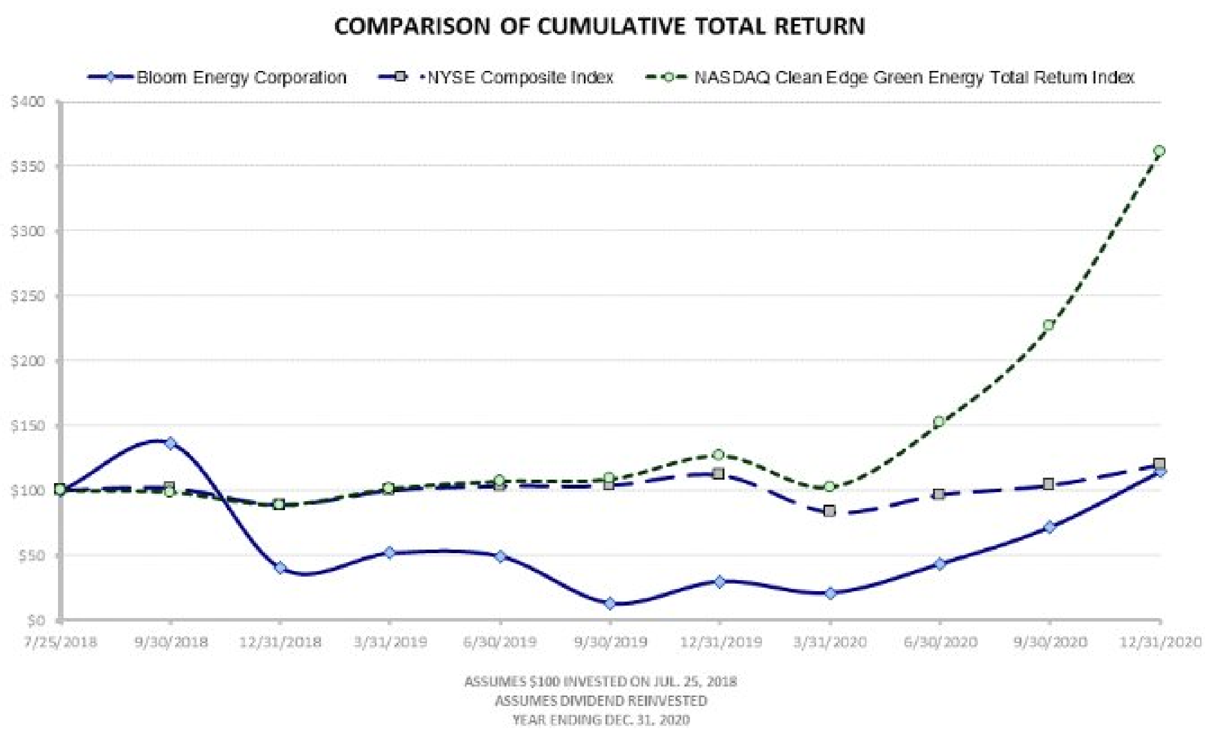
We have not declared or paid any cash dividends on our capital stock and do not intend to pay any cash dividends in the foreseeable future.

During the three months ended December 31, 2020, we issued 12,026,101 shares of our Class B common stock to certain holders of our 10% Convertible Notes upon settlement of conversion of approximately $96.2 million of such notes. These shares were issued in reliance upon the exemption from registration provided by Section 3(a)(9) of the Securities Act. All of these Class B common stock shares were subsequently converted to Class A common stock.

STOCK PERFORMANCE GRAPH

The following graph compares the cumulative total return since our initial public offering provided stockholders on our common stock relative to the cumulative total returns of the NYSE Composite Index and the Nasdaq Clean Edge Green Energy Total Return Index. An investment of $100 (with reinvestment of all dividends, if any) is assumed to have been made in our common stock and in each of the indexes on July 25, 2018 (the date our Class A common stock began trading on the NYSE) and its relative performance is tracked through December 31, 2020.

This graph is not deemed to be “filed” with the SEC or subject to the liabilities of Section 18 of the Exchange Act, and the graph shall not be deemed to be incorporated by reference into any prior or subsequent filing by us under the Securities Act. Note that past stock price performance is not necessarily indicative of future stock price performance.



(in cumulative $)	July 25, 2018	September 30, 2018	December 31, 2018	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019	March 31, 2020	June 30, 2020	September 30, 2020	December 31, 2020
Bloom Energy Corporation	$100.00	$136.32	$39.92	$51.68	$49.08	$13.00	$29.88	$20.92	$43.52	$71.88	$114.64
NYSE Composite Index	$100.00	$101.64	$88.91	$99.90	$103.40	$103.70	$111.59	$83.19	$96.68	$103.84	$119.39
NASDAQ Clean Edge Green Energy Total Return Index	$100.00	$98.59	$88.81	$101.33	$107.02	$108.65	$126.69	$102.62	$151.76	$227.03	$360.87

ITEM 7 - MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Overview

Description of Bloom Energy

We created the first large-scale, commercially viable solid oxide fuel-cell based power generation platform that provides clean and resilient power to businesses, essential services, and critical infrastructure. Our technology, invented in the United States, is the most advanced thermal electric generation technology on the market today. Our fuel-flexible Bloom Energy Servers can use biogas and hydrogen, in addition to natural gas, to create electricity at significantly higher efficiencies than traditional, combustion-based resources. In addition, our fuel cell technology can be used to create hydrogen, which is increasingly recognized as a critically important tool necessary for the full decarbonization of the energy economy. Our enterprise customers are among the largest multi-national corporations who are leaders in adopting new technologies. We also have strong relationships with some of the largest utility companies in the United States and the Republic of Korea.

We market and sell our Energy Servers primarily through our direct sales organization in the United States, and also have direct and indirect sales channels internationally. Recognizing that deploying our solutions requires a material financial commitment, we have developed a number of financing options to support sales of our Energy Servers to customers who lack the financial capability to purchase our Energy Servers directly, who prefer to finance the acquisition using third-party financing or who prefer to contract for our services on a pay-as-you-go model.

Our typical target commercial or industrial customer has historically been either an investment-grade entity or a customer with investment-grade attributes such as size, assets and revenue, liquidity, geographically diverse operations and general financial stability. We have recently expanded our product and financing options to the below-investment-grade customers and have also expanded internationally to target customers with deployments on a wholesale grid. Given that our customers are typically large institutions with multi-level decision making processes, we generally experience a lengthy sales process.

This section includes comparisons of certain 2020 financial information to the same information for 2019. Additional information about results for 2018 and certain year-on-year comparisons between 2019 and 2018 can be found in “Management’s Discussion and Analysis of Financial Condition and Results of Operations” sections in our Annual Report on Form 10-K for the year ended December 31, 2019.

COVID-19 Pandemic

General

We continue to monitor and adjust as appropriate our operations in response to the COVID-19 pandemic. As a technology company that supplies resilient, reliable and clean energy, we have been able to conduct the majority of operations as an “essential business” in California and Delaware, where we manufacture and perform many of our R&D activities, as well as in other states and countries where we are installing or maintaining our Energy Servers, notwithstanding government “shelter in place” orders. For the safety of our employees and others, many of our employees are still working from home unless they are directly supporting essential manufacturing production operations, installation work, service and maintenance activities and R&D. We have established protocols to minimize the risk of COVID-19 transmission within our facilities, including enhanced cleaning, and temperature screenings upon entry. In addition, all individuals entering our facilities are required to wear face coverings and our policy is to direct them not to enter if they have COVID-19-like symptoms. We follow CDC and local guidelines when notified of possible exposures. For more information regarding the risks posed to our company by the COVID-19 pandemic, refer to Part I, Item 1A, *Risk Factors – Risks Related to Our Products and Manufacturing – Our business has been and will continue to be adversely affected by the COVID-19 pandemic.*

Liquidity and Capital Resources

In March 2020, we successfully extended the maturity of our 10% Convertible Promissory Notes due December 2021 (the “10% Convertible Notes”), our 10% Constellation Promissory Note to December 2021 (the “10% Constellation Note”), and additionally entered into a note purchase agreement to issue $70.0 million of the 10.25% Notes in a private placement that was subsequently completed on May 1, 2020. Since then, the 10% Convertible Notes and the 10% Constellation Note were converted into equity and the potential liabilities associated with these notes have been extinguished. In August 2020, we issued the Green Notes. In November 2020, we redeemed our 10% Senior Secured Notes due July 2024 (the “10% Notes”).

Although, COVID-19 created disruptions throughout various aspects of our business as noted herein, it had a limited impact on our results of operation throughout 2020. This is in part due to the fact that throughout 2020, we continued to be conservative with our working capital spend, maintaining as much flexibility as possible around the timing of taking and paying for inventory and manufacturing our product while managing potential changes or delays in installations. We also improved our liquidity in light of the issuance of the Green Notes and conversion of 10% Convertible Notes and the 10% Constellation Notes. As we exited 2020, we do have expansion needs for our manufacturing facilities to meet anticipated demand in 2022. We are also expanding our selling territories both domestically and internationally, and anticipate an increase in the necessary resources to expand into new geographies. Although, we believe we have the sufficient capital for these activities over the next 12 months, we may enter the equity market for additional expansion capital. Please refer to Note 7 - *Outstanding Loans and Security Agreements* in Part II, Item 8, *Financial Statements and Supplementary Data*; and Part I, Item 1A, *Risk Factors – Risks Related to Our Liquidity – Our substantial indebtedness, and restrictions imposed by the agreements governing our and our PPA Entities' outstanding indebtedness, may limit our financial and operating activities and may adversely affect our ability to incur additional debt to fund future needs,* and *We may not be able to generate sufficient cash to meet our debt service obligations*, for more information regarding the terms of and risks associated with our debt.

Sales

Our selling activity was impacted by COVID-19 in the first half of 2020. In some industries, such as education and entertainment, decision makers shifted their focus to the immediate needs of the pandemic, thus delaying their purchase decisions and capital outlays. In other industries, we have experienced an increase in the time necessary to obtain new business as our customers address the impact of the COVID-19 pandemic and assess their facility and electricity needs. While there may ultimately be a reduction in electricity needs due to a decrease in economic activity, to date the impact has generally equated to a longer transaction cycle. Although sales in these sectors and others were impacted in the first half of 2020, a more typical demand and purchasing cycle returned in the second half of 2020.

Our ability to continue to expand our business both domestically and internationally and develop customer relationships also has been negatively impacted by current travel restrictions. Our marketing efforts historically have often involved customer visits to our manufacturing centers in California or Delaware, which we suspended throughout 2020 and have so far continued to do so. To the extent COVID-19 continues throughout 2021 and these travel restrictions remain, our expansion efforts may be impacted.

On the other hand, a significant portion of our customers are hospitals, healthcare companies, retailers and data centers. These industries are composed of essential businesses that still need the resiliency and reliability offered by our products. Throughout 2020, we saw a moderate increase in demand for our products in these sectors where the COVID-19 pandemic has highlighted the benefits of always-on, on-site power in times of disaster and uncertainty though tempered by the issues noted above. In addition, the pandemic has had no significant effect on our business in the Republic of Korea.

We have also had some unique opportunities to deploy our systems on an emergency basis to support temporary hospitals. We believe deploying clean electrical power with no oxides of nitrogen or sulfur emissions, especially as atmospheric pollutants, is important for facilities preparing to treat a respiratory disease like COVID-19. As a result of this opportunity to introduce our products to more healthcare providers, demand for our products at some permanent hospitals has also moderately increased.

Customer Financing

COVID-19 has resulted in a significant drop in the ability of many financiers (particularly financing institutions) to monetize tax credits. This is due to a drop in their taxable income stemming from losses due to the COVID-19 pandemic. We were able to obtain financing for our 2020 installations, but are still in the process of securing financing for our 2021 installations. We are actively working with new sources of capital that could finance projects for our 2021 installations. We have experienced in the current environment an increase in the time needed to solidify new relationships. The travel restrictions and limited ability for financiers to conduct due diligence at our facilities has increased the timeline to reach closure with new financiers. In addition, our ability to obtain financing for our Energy Servers partly depends on the creditworthiness of our customers. Some of our customers' credit ratings have recently fallen, which is impacting financing for their use of an Energy Server.

As of the end of 2020, all our customers were able to meet their payment obligations and the pandemic had no impact on the current financing instruments we had in place. Our recent experience has been that financing parties have capital to deploy and are interested in financing our Energy Servers. However, with the limited availability of tax credits, the difficulty for new potential financing parties to conduct due diligence in light of the pandemic and the drop in credit rating of some customers, it is taking longer to secure financing than in the past. If we are unable to secure financing for our 2021 installations, our revenue, cash flow and liquidity will be materially impacted.

Installations and Maintenance of Energy Servers

Our installation and maintenance operations have been, and may continue to be, adversely impacted by the COVID-19 pandemic. Our installation projects have experienced delays and may continue to experience delays relating to, among other things, shortages in available labor for design, installation and other work; the inability or delay in our ability to access customer facilities due to shutdowns or other restrictions; the decreased productivity of our general contractors, their sub-contractors, medium-voltage electrical gear suppliers, and the wide range of engineering and construction related specialist suppliers on whom we rely for successful and timely installations; the stoppage of work by gas and electric utilities on which we are critically dependent for hook ups; and the unavailability of necessary civil and utility inspections as well as the review of our permit submissions and issuance of permits by multiple authorities that have jurisdiction over our activities.

We are not the only business impacted by these shortages and delays, which means that we may in the future face increased competition for scarce resources, which may result in continuing delays or increases in the cost of obtaining such services, including increased labor costs and/or fees to expedite permitting. In addition, while construction activities have to date been deemed “essential business” and allowed to proceed in many jurisdictions, we have experienced interruptions and delays caused by confusion related to exemptions for “essential business” among our suppliers and their sub-contractors and the relevant permitting utilities. Future changes in applicable government orders or regulations, or changes in the interpretation of existing orders or regulations, could result in reductions in the scope of permitted construction activities or prohibitions on such activities. An inability to install our Energy Servers would negatively impact our acceptances, and thereby impact our cash flows and results of operations, including revenue.

Throughout 2020, the COVID-19 pandemic has caused delays that affected nearly all of our installations with varying degrees of severity. Since we do not recognize revenue on the sales of our products until installation and acceptance, installation delays have a negative and potentially material impact on our results of operations including revenue. Since we generally earn cash as we progress through the installation process, delays to installation activity also has an adverse and potentially materially affect on our cash flows. Our installations completed in the quarter ended December 31, 2020 were minimally impacted by COVID-19 and given mitigation strategies, we were able to complete our planned installations.

As to maintenance, if we are delayed in or unable to perform scheduled or unscheduled maintenance, our previously-installed Energy Servers will likely experience adverse performance impacts including reduced output and/or efficiency, which could result in warranty and/or guaranty claims by our customers. Further, due to the nature of our Energy Servers, if we are unable to replace worn parts in accordance with our standard maintenance schedule, we may be subject to increased costs in the future.

Supply Chain

We have experienced COVID-19 related delays from certain vendors and suppliers, which, in turn, could cause delays in the manufacturing and installation of our Energy Servers and adversely impact our cash flows and results of operations including revenue. We have a global supply chain and obtain components from Asia, Europe and India. In many cases, the components we obtain are jointly developed with our suppliers and unique to us, which makes it difficult to obtain and qualify alternative suppliers should our suppliers be impacted by COVID-9. In the second quarter, we experienced COVID-19 related delays from certain vendors and suppliers, however, these suppliers were not supplying discrete components to us and we were able to find and qualify alternative suppliers and our production was not impacted. During the third and fourth quarter, our supply chain stabilized; however, we still experienced supply chain disruptions due to COVID-19 with respect to logistics and container shortages. We put actions in place to mitigate the disruptions by booking alternate sea routes, creating virtual hubs and consolidating shipments coming form the same region

If spikes in COVID-19 occur in regions in which our supply chain operates we could experience a delay in materials, which could in turn impact production and installations and our cash flow and results of operations, including revenue.

Manufacturing

As an essential business in both the states of California and Delaware, we have continued to manufacture Energy Servers, but have adopted strict measures to help keep our employees safe. These measures have decreased productivity to a limited extent, but our deployments, maintenance and installations have not yet been constrained by our current pace of manufacturing. As described above, we have established protocols to minimize the risk of COVID-19 transmission within our manufacturing facilities and follow CDC and local guidelines when notified of possible exposures. We also instituted testing of individuals who comes into our facilities. Even with these precautions, it is possible an asymptomatic individual could enter our facilities and transmit the virus to others. We have had a few positive tests and in such cases, we have followed CDC and local guidelines.

If we become aware of cases of COVID-19 among our employees, we notify those with whom the person is known to have been in contact, send the exposed employees home for at least 10 days and require employees to test negative before returning to work. Certain roles within our facilities involve greater mobility throughout our facilities and potential exposure to more employees. In the event one of such employees suffers from COVID-19, or if we otherwise believe that a significant number of employees have been exposed and sent home, particularly in our manufacturing facilities, our production could be significantly impacted. Furthermore, since our manufacturing process requires tasks performed at both our California facility and Delaware facility, significant exposure at either facility would have a substantial impact on our overall production, and could adversely affect our cash flow and results of operations including revenue.

To date, COVID-19 has not impacted our production given the safety protocols we have put in place augmented by our ability to increase our shifts and obtain a contingent work force for some of the manufacturing activities. If COVID-19 materially impacts our supply chain or if we experience a significant COVID-19 outbreak that affects our manufacturing workforce, our production could be adversely impacted which could adversely impact our cash flow and results of operation, including revenue.

Purchase and Lease Options

Overview

Initially, we only offered our Energy Servers on a direct purchase basis, in which the customer purchases the product directly from us. We learned that while interested in our Energy Servers, some customers lacked the interest or financial capability to purchase our Energy Servers directly. Some of these customers were not in a position to optimize the use of federal tax benefits like the investment tax credit and accelerated depreciation.

In order to expand our offerings to those unable or those who prefer to not directly purchase our Energy Servers and/or who prefer to contract for our services on a pay-as-you-go model, we subsequently developed three financing options that enabled customers' use of the Energy Servers without a direct purchase through third-party ownership financing arrangements.

Under the ‘Traditional Lease’ option, a customer may lease one or more Energy Servers from a financial institution that purchases such Energy Servers. In most cases, the financial institution completes its purchase from us immediately after commissioning. We both (i) facilitate this financing arrangement between the financial institution and the customer and (ii) provide ongoing operations and maintenance services for the Energy Servers (such arrangement, a “Traditional Lease”).

Alternatively, a customer may enter into one of two major types of service contracts with us for the purchase of electricity generated by the Energy Servers. The first type of services contract has a fixed monthly payment component that is required regardless of the Energy Servers’ performance, and in some cases also includes a variable payment based on the Energy Server's performance (a “Managed Services Agreement”). Managed Services Agreements are then financed pursuant to a sale-leaseback with a financial institution (a “Managed Services Financing”). The second type of services contract requires the customer to pay for each kilowatt-hour produced by the Energy Servers (a “Power Purchase Agreement” or "PPA"). PPAs have been financed through tax equity partnerships, acquisition financings, and direct sales to investors (each, a “Portfolio Financing”).

Our capacity to offer our Energy Servers through any of these financed arrangements depends in large part on the ability of the financing party or parties involved to optimize the federal tax benefits associated with a fuel cell, like the investment tax credit or accelerated depreciation. Interest rate fluctuations may also impact the attractiveness of any financing offerings for our customers, and currency exchange fluctuations may also impact the attractiveness of international offerings. Each of these financings is limited by the creditworthiness of the customer. Additionally, the Traditional Lease and Managed Services Financing options, as with all leases, are also limited by the customer’s willingness to commit to making fixed payments regardless of the performance of our obligations under the customer agreement.

In each of our purchase options, we typically perform the functions of a project developer, including identifying end customers and financiers, leading the negotiations of the customer agreements and financing agreements, securing all necessary permitting and interconnections approvals, and overseeing the design and construction of the project up to and including commissioning the Energy Servers.

Warranties and Guaranties

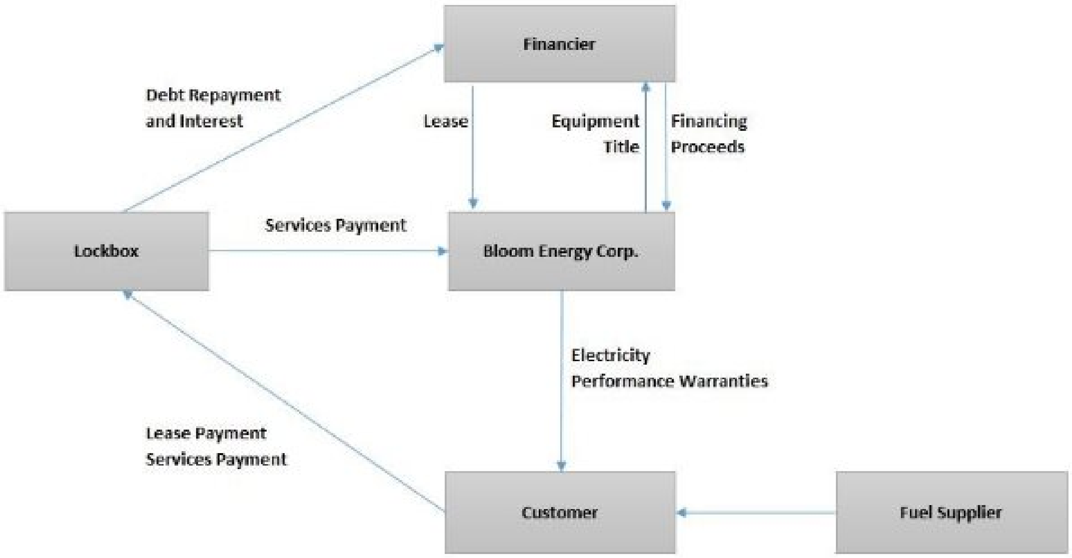
We typically provide warranties and guaranties regarding our Energy Servers’ performance (efficiency and output) to both the customer and in the case of Portfolio Financings, the investor. We refer to a “performance warranty” as a commitment where the failure of the Energy Servers to satisfy the stated performance level obligates us to repair or replace the Energy Servers as necessary to improve performance. If we fail to complete such repair or replacement, or if repair or replacement is impossible, we may be obligated to repurchase the Energy Servers from the customer or financier. We refer to a “performance guaranty” as a commitment where the failure of the Energy Servers to satisfy the stated performance level obligates us to make a payment to compensate the beneficiary of such guaranty for the resulting increased cost or decreased benefits resulting from the failure to meet the guaranteed level. Our obligation to make payments under the performance guaranty is always contractually capped.

In most cases, we include the first year of performance warranties and guaranties in the sale price of the Energy Server. Typically, performance warranties and guaranties made for the benefit of the Customer are in the Managed Services Agreement or PPA, as the case may be. In a Portfolio Financing, the performance warranties and guaranties made for the benefit of the investors are in an O&M Agreement. In a Traditional Lease or direct purchase option, the performance warranties and guaranties are in an extended maintenance service agreement.

Overview of Financing and Lease Options

The substantial majority of bookings made in recent periods have been Managed Services Agreements and PPAs. Each of our financing and lease options is described in further detail below.

Managed Services Financing



Under our Managed Services Financing option, we enter into a Managed Services Agreement with a customer for a certain term. In exchange for the use of the Energy Server and its generated electricity the customer makes a monthly payment. The monthly payment always includes a fixed monthly capacity-based payment, and in some cases also includes a performance-based payment based on the performance of the Energy Server. The fixed capacity-based payments made by the customer under the Managed Services Agreement are applied toward our obligation to pay down our periodic rent liability under a sale-leaseback transaction with an investor. The performance payment is transferred to us as compensation for operations and maintenance services and recognized as electricity revenue within the consolidated statements of operations.

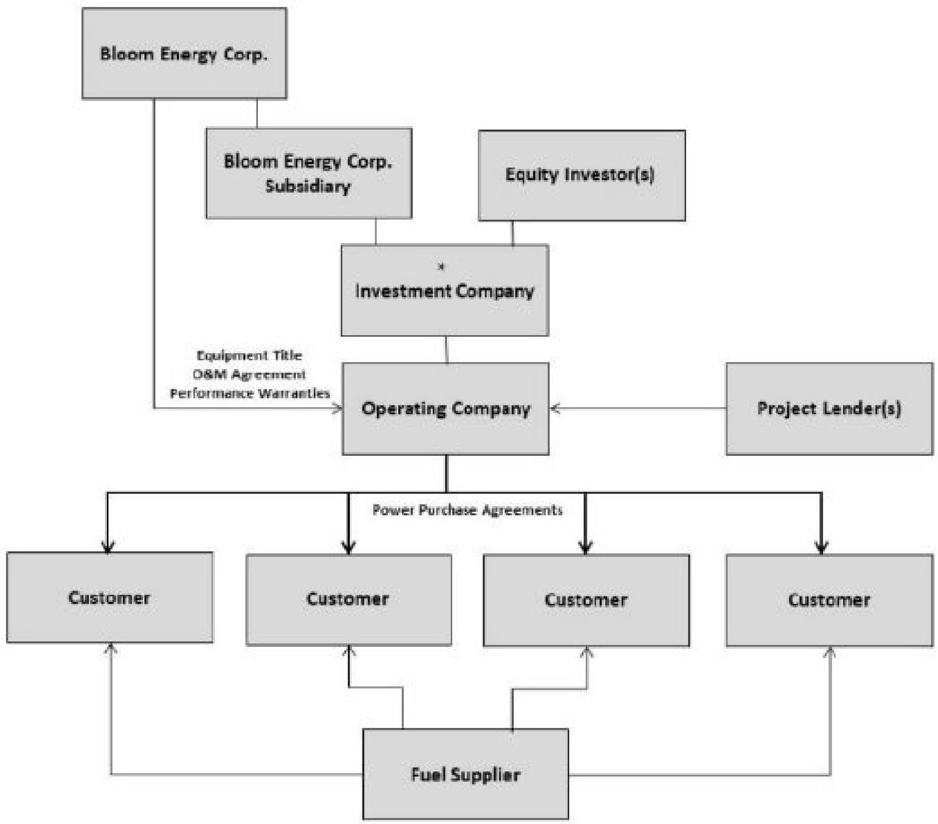
Under a Managed Services Financing, once we enter into a Managed Services Agreement with the customer, a financier is identified, we sell the Energy Server to such financier, as lessor, and the financier, as lessor, leases it back to us, as lessee, pursuant to a sale-leaseback transaction. The proceeds from the sale are recognized as a financing obligation within the consolidated balance sheets. Any ongoing operations and maintenance service payments are scheduled in the Managed Services Agreement in the form of the performance-based payment described above. The financier typically pays the purchase price for an Energy Server contemplated by the Managed Services Agreement on or shortly after acceptance.

The fixed capacity payments made by the customer under the Managed Services Agreement are applied towards our obligation to pay periodic rent under the sale-leaseback transaction. We assign all our rights to such fixed payments made by the customer to the financier, as lessor.

The duration of the master lease in a Managed Services Financing is currently between five and ten years.

Our Managed Services Agreements typically provide only for performance warranties of both the efficiency and output of the Energy Server, all of which are written in favor of the customer. These types of projects typically do not include guaranties above the warranty commitments, but in projects where the customer agreement includes a service payment for our operations and maintenance, that payment is typically proportionate to the output generated by the Energy Server(s) and our pricing assumes service revenues at the 95% output level. This means that our service revenues may be lower than expected if output is less than 95% and higher if output exceeds 95%. As of December 31, 2020, we had incurred no liabilities due to failure to repair or replace our Energy Servers pursuant to these performance warranties and the fleet of our Energy Servers deployed pursuant to the Managed Services Financings was performing at a lifetime average output of approximately 86%.

Portfolio Financings



*Under a Portfolio Financing, pursuant to which we sell an operating company to an investor or tax-equity partnership, we have no equity in the purchaser, also referred to as Third-Party PPA.

A PPA is an agreement pursuant to which the owner of an Energy Server sells electricity to an end customer on a dollar-per-kilowatt-hour basis pursuant to a power purchase agreement. We have financed PPAs through two types of Portfolio Financings.

In one type of transaction, we finance a portfolio of PPAs pursuant to a tax equity partnership in which we hold a managing member interest (such partnership, a “PPA Entity”). We sell the portfolio of Energy Servers to a single member limited liability project company (an “Operating Company”). The Operating Company sells the electricity generated by the Energy Servers contemplated by the PPAs to the ultimate end customers. As these transactions include an equity investment by us in the PPA Entity for which we are the primary beneficiary and therefore consolidate the entities, we recognize revenue as the electricity is produced. Our future plans to raise capital no longer contemplate these types of transactions.

We also finance PPAs through a second type of Portfolio Financing pursuant to which we sell an entire Operating Company to an investor or tax equity partnership in which we do not have an equity interest (a “Third-Party PPA”). We recognize revenue on the sale of each Energy Server purchased by the Operating Company on acceptance. For further discussion, see Note 13 - *Portfolio Financings* in Part II, Item 8, *Financial Statements and Supplementary Data*.

When we finance a portfolio of Energy Servers and PPAs through a Portfolio Financing, we enter into a sale, engineering and procurement and construction agreement (“EPC Agreement”) and an O&M Agreement, in each case with the Operating Company that both is counter-party to the portfolio of PPAs and that will eventually own the Energy Servers. As counter-party to the portfolio of PPAs, the Operating Company, as owner of the Energy Servers, receives all customer payments generated under the PPAs, all investment tax credits, all accelerated tax depreciation benefits, and any other available state or local benefits arising out of the ownership or operation of the Energy Servers, to the extent not already allocated to the end customer under the PPA.

The sales of our Energy Servers to the Operating Company in connection with a Portfolio Financing have many of the same terms and conditions as a direct sale. Payment of the purchase price is generally broken down into multiple installments, which may include payments prior to shipment, upon shipment or delivery of the Energy Server, and upon acceptance of the Energy Server. Acceptance typically occurs when the Energy Server is installed and running at full power as defined in the applicable EPC Agreement. A one-year service warranty is provided with the initial sale. After the expiration of the initial standard one-year warranty, the Operating Company has the option to extend our operations and maintenance services under the O&M Agreement on an annual basis at a price determined at the time of purchase of our Energy Server, which may be renewed annually for each Energy Server for up to 30 years. After the standard one-year warranty period, the Operating Company has almost always exercised the option to renew our operations and maintenance services under the O&M Agreement.

We typically provide performance warranties and guaranties related to output and efficiency or a combination of the two to the Operating Company under the O&M Agreement. We also backstop all of the Operating Company's obligations under the portfolio of PPAs, including both the repair or replacement obligations pursuant to the performance warranties and any payment liabilities under the guaranties.

As of December 31, 2020, we had incurred no liabilities to investors in Portfolio Financings due to failure to repair or replace Energy Servers pursuant to these performance warranties. Our obligation to make payments for underperformance against the performance guaranties was capped at an aggregate total of approximately $114.3 million (including payments both for low output and for low efficiency) and our aggregate remaining potential liability under this cap was approximately $108.9 million.

Obligations to Operating Companies

In addition to our obligations to the end customers, our Portfolio Financings involve many obligations to the Operating Company that purchases our Energy Servers. These obligations are set forth in the applicable EPC Agreement and O&M Agreement, and may include some or all of the following obligations:

- designing, manufacturing, and installing the Energy Servers, and selling such Energy Servers to the Operating Company;
- obtaining all necessary permits and other governmental approvals necessary for the installation and operation of the Energy Servers, and maintaining such permits and approvals throughout the term of the EPC Agreements and O&M Agreements;
- operating and maintaining the Energy Servers in compliance with all applicable laws, permits and regulations;
- satisfying the performance warranties and guaranties set forth in the applicable O&M Agreements;
- satisfying the performance warranties and guaranties in each of the applicable PPAs on behalf of the Operating Company; and
- complying with any other specific requirements contained in the PPAs with individual end-customers.

The EPC Agreement obligates us to repurchase the Energy Server in the event of certain IP Infringement claims. The O&M Agreement obligates us to repurchase the Energy Servers in the event the Energy Servers fail to comply with the performance warranties and guaranties in the O&M Agreement and we do not cure such failure in the applicable time period, or that a PPA terminates as a result of any failure by us to perform the obligations in the O&M Agreement. In some of our Portfolio Financings, our obligation to repurchase Energy Servers under the O&M extends to the entire fleet of Energy Servers sold in the event a systemic failure affects more than a specified number of Energy Servers.

In some Portfolio Financings, we have also agreed to pay liquidated damages to the applicable Operating Company in the event of delays in the manufacture and installation of our Energy Servers, either in the form of a cash payment or a reduction in the purchase price for the applicable Energy Servers.

Both the upfront purchase price for our Energy Servers and the ongoing fees for our operations and maintenance are paid on a fixed dollar-per-kilowatt basis.

Administration of Operating Companies.

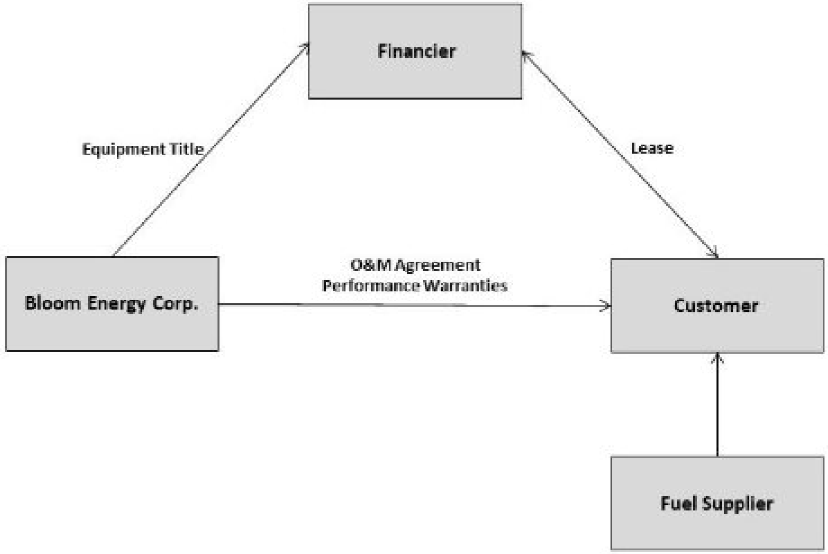
In each of our Portfolio Financings in which we hold an interest in the tax equity partnership, we perform certain administrative services as managing member on behalf of the applicable Operating Company, including invoicing the end customers for amounts owed under the PPAs, administering the cash receipts of the Operating Company in accordance with the requirements of the financing arrangements, interfacing with applicable regulatory agencies, and other similar obligations. We are compensated for these services on a fixed dollar-per-kilowatt basis.

The Operating Company in each of our PPA Entities (with the exception of one PPA Entity) has incurred debt in order to finance the acquisition of Energy Servers. The lenders for these projects are a combination of banks and/or institutional investors. In each case, the debt is secured by all of the assets of the applicable Operating Company, such assets being primarily comprised of the Energy Servers and a collateral assignment of each of the contracts to which the Operating Company is a party, including the O&M Agreement and the PPAs. As further collateral, the lenders receive a security interest in 100% of the membership interest of the Operating Company. The lenders have no recourse to us or to any of the other equity investors (the "Equity Investors") in the Operating Company for liabilities arising out of the portfolio.

We have determined that we are the primary beneficiary in the PPA Entities, subject to reassessments performed as a result of upgrade transactions. Accordingly, we consolidate 100% of the assets, liabilities and operating results of these entities, including the Energy Servers and lease income, in our consolidated financial statements. We recognize the Equity Investors’ share of the net assets of the investment entities as noncontrolling interests in subsidiaries in our consolidated balance sheet. We recognize the amounts that are contractually payable to these investors in each period as distributions to noncontrolling interests in our consolidated statements of convertible redeemable preferred stock, redeemable noncontrolling interest, stockholders' deficit and noncontrolling interest. Our consolidated statements of cash flows reflect cash received from these investors as proceeds from investments by noncontrolling interests in subsidiaries. Our consolidated statements of cash flows also reflect cash paid to these investors as distributions paid to noncontrolling interests in subsidiaries. We reflect any unpaid distributions to these investors as distributions payable to noncontrolling interests in subsidiaries on our consolidated balance sheets. However, the Operating Companies are separate and distinct legal entities, and Bloom Energy Corporation may not receive cash or other distributions from the Operating Companies except in certain limited circumstances and upon the satisfaction of certain conditions, such as compliance with applicable debt service coverage ratios and the achievement of a targeted internal rate of return to the Equity Investors, or otherwise.

For further information about our Portfolio Financings, see Note 13 - *Portfolio Financings* in Part II, Item 8, *Financial Statements and Supplementary Data.*

Traditional Lease



Under the Traditional Lease option, the customer enters into a lease directly with a financier (the "Lease"), which pays us for our Energy Servers purchased pursuant to a direct sales agreement. We recognize product and installation revenue upon acceptance. After the standard one-year warranty period, our customers have almost always exercised the option to enter into service agreement for operations and maintenance work with us, under which we receive annual service payments from the customer. The price for the annual operations and maintenance services is set at the time we enter into the Lease. The term of a lease in a Traditional Lease option ranges from five to ten years.

The direct sales agreement provides for sale and the installation of our Energy Servers and includes a standard one-year warranty, to the financier as purchaser. The services agreement with the customer provides certain performance warranties and guaranties, with the services term offered on an annually renewing basis at the discretion of, and to, the customer. The customer must provide fuel for the Bloom Energy Servers to operate.

The direct sales agreement in a Traditional Lease arrangement typically provides for performance warranties and guaranties of both the efficiency and output of our Energy Servers, all of which are written in favor of the customer. As of December 31, 2020, we had incurred no liabilities due to failure to repair or replace our Energy Servers pursuant to these performance warranties. Our obligation to make payments for underperformance against the performance guaranties for projects financed pursuant to a Traditional Lease was capped contractually under the sales agreement between us and each customer at an aggregate total of approximately $6.0 million (including payments both for low output and for low efficiency) and our aggregate remaining potential liability under this cap was approximately $3.8 million.

Remarketing at Termination of Lease

In the event the customer does not renew or purchase our Energy Servers to the end of its Lease, we may remarket any such Energy Servers to a third party. Any proceeds of such sale would be allocated between us and the applicable financing partner as agreed between them at the time of such sale.

Delivery and Installation

The timing of delivery and installations of our products have a significant impact on the timing of the recognition of product and installation revenue. Many factors can cause a lag between the time that a customer signs a purchase order and our recognition of product revenue. These factors include the number of Energy Servers installed per site, local permitting and utility requirements, environmental, health and safety requirements, weather, and customer facility construction schedules. Many of these factors are unpredictable and their resolution is often outside of our or our customers' control. Customers may also ask us to delay an installation for reasons unrelated to the foregoing, including delays in their obtaining financing. Further, due to unexpected delays, deployments may require unanticipated expenses to expedite delivery of materials or labor to ensure the installation meets the timing objectives. These unexpected delays and expenses can be exacerbated in periods in which we deliver and install a larger number of smaller projects. In addition, if even relatively short delays occur, there may be a significant shortfall between the revenue we expect to generate in a particular period and the revenue that we are able to recognize. For our installations, revenue and cost of revenue can fluctuate significantly on a periodic basis depending on the timing of acceptance and the type of financing used by the customer.

Our product sales backlog was $1.0 billion, equivalent to 1,994 systems, or 199.4 megawatts, as of December 31, 2020. Our product sales backlog was $1.1 billion, equivalent to 1,983 systems, or 198.3 megawatts, as of December 31, 2019.

We define product sales backlog as signed customer product sales orders received prior to the period end, but not yet accepted, excluding site cancellations. The timing of the deployment of our backlog depends on the factors described above. However, as a general matter, at any point in time, we expect at least 50% of our backlog to be deployed within the next 12 months. The portion of our backlog in the year ended December 31, 2020 attributable to each payment option was as follows: direct purchase (including Third Party PPAs) 90% and Managed Services Agreements 10%. The portion of our backlog in the year ended December 31, 2019 attributable to each payment option was as follows: direct purchase (including Third Party PPAs) 93% and Managed Services Agreements 7%.

International Channel Partners

India. In India, sales activities are currently conducted by Bloom Energy (India) Pvt. Ltd., our wholly-owned indirect subsidiary; however, we are currently evaluating the Indian market to determine whether the use of channel partners would be a beneficial go-to-market strategy to grow our India market sales.

Japan. In Japan, sales are conducted pursuant to a Japanese joint venture established between us and subsidiaries of SoftBank Corp, called Bloom Energy Japan Limited ("Bloom Energy Japan"). Under this arrangement, we sell Energy Servers to Bloom Energy Japan and we recognize revenue once the Energy Servers leave the port in the United States. Bloom Energy Japan enters into the contract with the end customer and performs all installation work as well as some of the operations and maintenance work.

The Republic of Korea. In 2018, Bloom Energy Japan consummated a sale of Energy Servers in the Republic of Korea to Korea South-East Power Company. Following this sale, we entered into a Preferred Distributor Agreement with SK Engineering & Construction Co., Ltd. ("SK E&C") to enable us to sell directly into the Republic of Korea.

Under our agreement with SK E&C, SK E&C has a right of first refusal during the term of the agreement, with certain exceptions, to serve as distributor of Energy Servers for any fuel cell generation project in the Republic of Korea, and we have the right of first refusal to serve as SK E&C's supplier of generation equipment for any Bloom Energy fuel cell project in the Republic of Korea. Under the terms of each purchase order, title, risk of loss and acceptance of the Energy Servers pass from us to SK E&C upon delivery at the named port of lading for shipment in the United States for the Energy Servers shipped in 2018 and thereafter, upon delivery at the named port of unlading in the Republic of Korea, prior to unloading subject to final purchase order terms. The Preferred Distributor Agreement has an initial term expiring on December 31, 2021, and thereafter will automatically be renewed for three-year renewal terms unless either party terminates this agreement by prior written notice under certain circumstances.

Under the terms of the Preferred Distributor Agreement, we (or our subsidiary) contract directly with the customer to provide operations and maintenance services for the Energy Servers. We have established a subsidiary in the Republic of Korea, Bloom Energy Korea, LLC, to which we subcontract such operations and maintenance services. The terms of the operations and maintenance are negotiated on a case-by-case basis with each customer, but are generally expected to provide the customer with the option to receive services for at least 10 years, and for up to the life of the Energy Servers.

SK E&C Joint Venture Agreement. In September 2019, we entered into a joint venture agreement with SK E&C to establish a light-assembly facility in the Republic of Korea for sales of certain portions of our Energy Server for the stationary utility and commercial and industrial market in the Republic of Korea. The joint venture is majority controlled and managed by us, with the facility, which became operational in July 2020. Other than a nominal initial capital contribution by Bloom, the joint venture will be funded by SK E&C. SK E&C, who currently acts as a distributor for our Energy Servers for the stationary utility and commercial and industrial market in the Republic of Korea, will be the primary customer for the products assembled by the joint venture.

Community Distributed Generation Programs

In July 2015, the state of New York introduced its Community Distributed Generation ("CDG") program, which extends New York's net metering program in order to allow utility customers to receive net metering credits for electricity generated by distributed generation assets located on the utility's grid but not physically connected to the customer's facility. This program allows for the use of multiple generation technologies, including fuel cells. Since then the state of Connecticut has instituted a similar program and we expect that other states may adopt similar programs in the future.

We have entered into sales, installation, operations and maintenance agreements with three developers for the deployment of our Energy Servers pursuant to the New York CDG program, and we subsequently recognized revenue associated with 75 systems in the three months ended September 30, 2020. In June 2020, the New York Public Service Commission issued an Order that limited the CDG compensation structure for "high capacity factor resources," including fuel cells, in a way that will make the economics for these types of projects more challenging in the future. However, the projects that were already under contract were grandfathered into the program under the previous compensation structure. Irrespective of this development, we believe that these types of subscriber-based programs could be a source of future revenue and will continue to look to generate future sales through these programs during 2021.

Key Operating Metrics

In addition to the measures presented in the consolidated financial statements, we use the following key operating metrics to evaluate business activity, to measure performance, to develop financial forecasts and to make strategic decisions:

- **Product accepted** - the number of customer acceptances of our Energy Servers in any period. We recognize revenue when an acceptance is achieved. We use this metric to measure the volume of deployment activity. We measure each Energy Server manufactured, shipped and accepted in terms of 100 kilowatt equivalents.
- **Billings for product accepted in the period** - the total contracted dollar amount of the product component of all Energy Servers that are accepted in a period. We use this metric to gauge the dollar value of the product acceptances and to evaluate the change in dollar amount of acceptances between periods.
- **Billings for installation on product accepted in the period** - the total contracted dollar amount billable with respect to the installation component of all Energy Servers that are accepted. We use this metric to gauge the dollar value of the installations of our product acceptances and to evaluate the change in dollar value associated with the installation of our product acceptances between periods.
- **Billings for annual maintenance service agreements** - the dollar amount billable for one-year service contracts that have been initiated or renewed. We use this metric to measure the cumulative billings for all service contracts in any given period. As our installation base grows, we expect our billings for annual maintenance service agreements to grow, as well.
- **Product costs of product accepted in the period (per kilowatt)** - the average unit product cost for the Energy Servers that are accepted in a period. We use this metric to provide insight into the trajectory of product costs and, in particular, the effectiveness of cost reduction activities.
- **Period costs of manufacturing expenses not included in product costs** - the manufacturing and related operating costs that are incurred to procure parts and manufacture Energy Servers that are not included as part of product costs. We use this metric to measure any costs incurred to run our manufacturing operations that are not capitalized (i.e., absorbed, such as stock-based compensation) into inventory and therefore, expensed to our consolidated statement of operations in the period that they are incurred.
- **Installation costs on product accepted (per kilowatt)** - the average unit installation cost for Energy Servers that are accepted in a given period. This metric is used to provide insight into the trajectory of install costs and, in particular, to evaluate whether our installation costs are in line with our installation billings.

Comparison of the Years Ended December 31, 2020 and 2019

Acceptances

We use acceptances as a key operating metric to measure the volume of our completed Energy Server installation activity from period to period. We typically define an acceptance as when an Energy Server is installed and running at full power as defined in the customer contract or the financing agreements. For orders where a third party performs the installation, acceptances are generally achieved when the Energy Servers are shipped.

The product acceptances in the years ended December 31, 2020 and 2019 were as follows:

	Years Ended December 31,		Change	
	2020	2019	Amount	%
Product accepted during the period (in 100 kilowatt systems)	1,326	1,194	132	11.1 %

Product accepted increased by 132 systems, or 11.1%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Acceptance volume increased as demand increased for our Energy Servers.

As discussed in the Purchase and Lease Options section above, our customers have several purchase options for our Energy Servers. The portion of acceptances attributable to each purchase option in the years ended December 31, 2020 and 2019 was as follows:

	Years Ended December 31,	
	2020	2019
Direct Purchase (including Third Party PPAs and International Channels)	96 %	93 %
Traditional Lease	— %	— %
Managed Services	4 %	7 %
	100 %	100 %

The portion of total revenue attributable to each purchase option in the years ended December 31, 2020 and 2019 was as follows:

	Years Ended December 31,	
	2020	2019
Direct Purchase (including Third Party PPAs and International Channels)	88 %	85 %
Traditional Lease	1 %	1 %
Managed Services	5 %	5 %
Portfolio Financings	6 %	9 %
	100 %	100 %

Billings Related to Our Products

Total billings attributable to each revenue classification for the years ended December 31, 2020 and 2019 was as follows:

	Years Ended December 31,		Change	
	2020	2019	Amount	%
	(dollars in thousands)			
Billings for product accepted in the period	$ 543,868	$ 681,034	$ (137,166)	(20.1)%
Billings for installation on product accepted in the period	99,580	61,270	38,310	62.5 %
Billings for annual maintenance services agreements	82,692	76,852	5,840	7.6 %

Billings for product accepted decreased by approximately $137.2 million, or 20.1%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. The decrease was primarily due to a higher average selling price mix in the year ended December 31, 2019, driven mainly by the one-time PPA II upgrade that occurred in the year ended December 31, 2019. Billings for installation on product accepted increased $38.3 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Although product acceptances in the period increased only 11.1%, billings for installation on product accepted increased 62.5%, primarily due to the mix in installation billings driven by site complexity, site size, personalized applications, and the customer's option to complete the installation of our Energy Servers themselves. Billings for annual maintenance service agreements increased $5.8 million, or 7.6%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was driven primarily by the increase in our installed base.

Costs Related to Our Products

Total product related costs for the years ended December 31, 2020 and 2019 was as follows:

	Years Ended December 31,		Change	
	2020	2019	Amount	%
Product costs of product accepted in the period	$2,368/kW	$2,881 /kW	$(513)/kW	(17.8)%
Period costs of manufacturing related expenses not included in product costs (in thousands)	$ 19,573	$ 16,989	$ 2,584	15.2 %
Installation costs on product accepted in the period	$900/kW	$644/kW	$256/kW	39.8 %

Product costs of product accepted decreased by approximately $513 per kilowatt, or 17.8%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. The product cost reduction was driven generally by our ongoing cost reduction efforts to reduce material costs in conjunction with our suppliers and our reduction in labor and overhead costs through improved processes and automation at our manufacturing facilities.

Period costs of manufacturing related expenses increased by approximately $2.6 million, or 15.2%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. The increase in period costs for the period was primarily driven by a lower benefit from capitalization of stock-based compensation overhead costs to inventory in the current year offset by higher utilization of inventory materials.

Installation costs on product accepted increased by approximately $256 per kilowatt, or 39.8%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Each customer site is different and installation costs can vary due to a number of factors, including site complexity, size, location of gas, personalized applications, and the customer's option to complete the installation of our Energy Servers themselves. As such, installation on a per kilowatt basis can vary significantly from period-to-period.

Results of Operations

A discussion regarding the comparison of our financial condition and results of operations for the years ended December 31, 2020 and 2019 is presented below (in thousands, except percentage data).

Comparison of the Years Ended December 31, 2020 and 2019

Revenue

	Years Ended December 31,		Change	
	2020	2019	Amount	%
	(dollars in thousands)			
Product	$ 518,633	$ 557,336	$ (38,703)	(6.9)%
Installation	101,887	60,826	41,061	67.5 %
Service	109,633	95,786	13,847	14.5 %
Electricity	64,094	71,229	(7,135)	(10.0)%
Total revenue	$ 794,247	$ 785,177	$ 9,070	1.2 %

Total Revenue

Total revenue increased approximately $9.1 million, or 1.2%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was primarily driven by an 11.1% increase in acceptances, offset by the favorable impact of the PPA II upgrade that occurred in the year ended December 31, 2019.

Product Revenue

Product revenue decreased approximately $38.7 million, or 6.9%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. The product revenue decrease was driven by the one-time favorable impact of the PPA II upgrade on revenue in the year ended December 31, 2019, partially offset by the increase in product revenue from the 11.1% increase in acceptances and $14.2 million of previously deferred revenue that was recognized in the year ended December 31, 2020 that was not associated with acceptances or services in the year. This was a one-time recognition of deferred revenue related to a specific contract that changed scope.

Installation Revenue

Installation revenue increased approximately $41.1 million, or 67.5%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was driven by the increase in product acceptances of approximately 132 systems, or 11.1%, for the year ended December 31, 2020 and due to the change in mix of installations driven by site complexity, site size, and the customer's option to complete the installation of our Energy Servers themselves.

Service Revenue

Service revenue increased approximately $13.8 million, or 14.5% for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This was primarily due to the increase in the number of annual maintenance contract renewals driven by our growing fleet of installed Energy Servers.

Electricity Revenue

Electricity revenue decreased approximately $7.1 million, or 10.0%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019, due to a reduction in electricity revenue resulting from the decommissioning and an upgrade of PPA II in the year ended December 31, 2019. Electricity revenue was primarily driven by the PPA Entities, which included PPA II, and, to a lesser extent, our Managed Services Agreements. When the PPA Entities are decommissioned, we no longer recognize electricity revenue for them.

Cost of Revenue

	Years Ended December 31,		Change	
	2020	2019	Amount	%
	(dollars in thousands)			
Cost of revenue:				
Product	$ 332,724	$ 435,479	$ (102,755)	(23.6)%
Installation	116,542	76,487	40,055	52.4 %
Service	132,329	100,238	32,091	32.0 %
Electricity	46,859	75,386	(28,527)	(37.8)%
Total cost of revenue	$ 628,454	$ 687,590	$ (59,136)	(8.6)%

Total Cost of Revenue

Total cost of revenue decreased approximately $59.1 million, or 8.6%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Included as a component of total cost of revenue, stock-based compensation decreased approximately $28.0 million, or 61.5%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. In addition, cost of revenue for the year ended December 31, 2019 included $94.8 million of one-time expenses associated with the PPA upgrade. Total cost of revenue, excluding stock-based compensation and the one-time expenses, increased approximately $63.6 million, or 11.6%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019 due to the 11.1% increase in product acceptances.

Cost of Product Revenue

Cost of product revenue decreased approximately $102.8 million, or 23.6%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Stock-based compensation, which is included as a component of cost of product revenue, decreased approximately $22.7 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. In addition, cost of product revenue for the year ended December 31, 2019 included $70.5 million of one-time expenses associated with the PPA upgrade. Cost of product revenue, excluding stock-based compensation and the one-time expenses, decreased approximately $9.5 million, or 2.9%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019, despite an 11.1% increase in product acceptances, due to ongoing cost reduction efforts to reduce material, labor and overhead costs.

Cost of Installation Revenue

Cost of installation revenue increased approximately $40.1 million, or 52.4%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019, due to the increase in product acceptances of approximately 132 systems, or 11.1%, for the year ended December 31, 2020 and due to the change in mix of installations driven by site complexity, size, local ordinance requirements, location of the utility interconnect and, the customer's option to complete the installation of our Energy Servers themselves.

Cost of Service Revenue

Cost of service revenue increased approximately $32.1 million, or 32.0%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase in service cost was primarily due to more power module replacements required in the fleet as our fleet of installed Energy Servers grows with acceptances and additional extended service contracts are executed and renewed.

Cost of Electricity Revenue

Cost of electricity revenue decreased approximately $28.5 million, or 37.8%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019, mainly due to the $24.4 million of one-time expenses associated with the PPA upgrade recognized in the year ended December 31, 2019.

Gross Profit (Loss)

	Years Ended December 31, 2020	Years Ended December 31, 2019	Change
	(dollars in thousands)		
Gross profit:			
Product	$ 185,909	$ 121,857	$ 64,052
Installation	(14,655)	(15,661)	1,006
Service	(22,696)	(4,452)	(18,244)
Electricity	17,235	(4,157)	21,392
Total gross profit	$ 165,793	$ 97,587	$ 68,206
Gross margin:			
Product	36 %	22 %	
Installation	(14) %	(26) %	
Service	(21) %	(5) %	
Electricity	27 %	(6) %	
Total gross margin	21 %	12 %	

Total Gross Profit

Gross profit improved $68.2 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Stock-based compensation, which is included as a component of total cost of revenue, decreased approximately $28.0 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Total gross profit, excluding stock-based compensation, improved approximately $40.2 million, or 28.1%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019, primarily driven by the improvement in product gross profit as our product cost reductions outpaced average selling price ("ASP") reductions.

Product Gross Profit

Product gross profit increased $64.1 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Excluding stock-based compensation, product gross profit increased $41.3 million, or 26.5%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This was primarily due to our product cost reductions outpacing our ASP reductions.

Installation Gross Loss

Installation gross loss improved $1.0 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Excluding stock-based compensation, install gross loss worsened $2.6 million, or 29.2%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019, driven by the change in mix of installations driven by site complexity, size, local ordinance requirements, location of the utility interconnect and, the customer's option to complete the installation of our Energy Servers themselves.

Service Gross Profit (Loss)

Service gross loss decreased by $18.2 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This change was primarily due to an increase in service cost driven primarily by the timing of our service schedule for power module replacements required in our growing fleet of installed Energy Servers.

Electricity Gross Profit (Loss)

Electricity gross profit (loss) improved $21.4 million, or 514.6%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019, mainly due to charges related to the decommissioning and deconsolidation of Energy Servers associated with the PPA II and PPA IIIb upgrades of Energy Servers in the year ended December 31, 2019.

Operating Expenses

	Years Ended December 31,		Change	
	2020	2019	Amount	%
	(dollars in thousands)			
Research and development	$ 83,577	$ 104,168	$ (20,591)	(19.8)%
Sales and marketing	55,916	73,573	(17,657)	(24.0)%
General and administrative	107,085	152,650	(45,565)	(29.8)%
Total operating expenses	$ 246,578	$ 330,391	$ (83,813)	(25.4)%

Total Operating Expenses

Total operating expenses decreased $83.8 million, or 25.4%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Included as a component of total operating expenses, stock-based compensation expenses decreased approximately $94.4 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. The decrease in stock-based compensation expense was primarily attributable to a one-time employee grant of RSUs awarded prior to our IPO that completed their vesting in July of 2020. Total operating expenses, excluding stock-based compensation, increased approximately $10.6 million, or 5.9%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was primarily driven by our investment in our technology roadmap, initiatives to enable market and customer financing expansion, and debt restructuring related expenses.

Research and Development

Research and development expenses decreased by approximately $20.6 million, or 19.8%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Included as a component of research and development expenses, stock-based compensation expenses decreased by approximately $21.9 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Total research and development expenses, excluding stock-based compensation, increased by approximately $1.3 million, or 2.1%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was primarily due to the investments made in our next generation technology development, sustaining engineering projects for the current Energy Server platform, investments made for customer personalized applications, such as microgrids, marine solutions and new fuel solutions utilizing biogas and hydrogen.

Sales and Marketing

Sales and marketing expenses decreased by approximately $17.7 million, or 24.0%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Included as a component of sales and marketing expenses, stock-based compensation expenses decreased by approximately $21.5 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Total sales and marketing expenses, excluding stock-based compensation, increased by approximately $3.8 million, or 9.3%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was driven by our expanded efforts to increase demand and raise market awareness of our Energy Server solutions, expanding outbound communications, as well as efforts to attract new customer financing partners.

General and Administrative

General and administrative expenses decreased by approximately $45.6 million, or 29.8%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Included as a component of general and administrative expenses, stock-based compensation expenses decreased by approximately $51.1 million for the year ended December 31, 2020, as compared to the year ended December 31, 2019. Total general and administrative expenses, excluding stock-based compensation, increased by approximately $5.5 million, or 7.3%, for the year ended December 31, 2020, as compared to the year ended December 31, 2019. The increase in general and administrative expenses was mainly due to debt refinancing and SOX compliance activities for the year ended December 31, 2020, offset by a $5.9 million one-time expense in the year ended December 31, 2019 associated with the PPA II upgrade.

Stock-Based Compensation

	Years Ended December 31,		Change	
	2020	2019	Amount	%
	(dollars in thousands)			
Cost of revenue	$ 17,475	$ 45,429	$ (27,954)	(61.5)%
Research and development	19,037	40,949	(21,912)	(53.5)%
Sales and marketing	10,997	32,478	(21,481)	(66.1)%
General and administrative	26,384	77,435	(51,051)	(65.9)%
Total stock-based compensation	$ 73,893	$ 196,291	$ (122,398)	(62.4)%

Total stock-based compensation decreased $122.4 million, or 62.4%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. Of the $73.9 million in stock-based compensation for the year ended December 31, 2020, approximately $59.8 million was related to RSUs and PSUs, of which $13.0 million was related to one-time employee grants of RSUs that were issued at the time of our IPO and that had a two-year vesting period, expensed using a graded vesting method.

Other Income and Expense

	Years Ended December 31,		
	2020	2019	Change
	(in thousands)		
Interest income	$ 1,475	$ 5,661	$ (4,186)
Interest expense	(76,276)	(87,480)	11,204
Interest expense - related parties	(2,513)	(6,756)	4,243
Other income (expense), net	(8,318)	706	(9,024)
Loss on extinguishment of debt	(12,878)	—	(12,878)
Gain (loss) on revaluation of embedded derivatives	464	(2,160)	2,624
Total	$ (98,046)	$ (90,029)	$ (8,017)

Total Other Expense

Total other expense increased $8.0 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This increase was primarily due to the loss on extinguishment of debt of $12.9 million.

Interest Income

Interest income decreased $4.2 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This decrease was primarily due to the decrease in the rates of interest earned on our cash balances.

Interest Expense

Interest expense decreased $11.2 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This decrease was primarily due to lower interest expense as a result of refinancing our notes at a lower interest rate and the debt buy-out due to PPA II and PPA IIIb upgrades, offset by an increase from new Managed Services transactions completed in the year.

Interest Expense - Related Parties

Interest expense - related parties decreased $4.2 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019 due to the conversion of the related party notes during the year.

Other Income (Expense), net

Other income (expense), net worsened $9.0 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019, due to an impairment in our investment in the Bloom Energy Japan joint venture and changes in foreign currency translation expense.

Loss on Extinguishment of Debt

Loss on extinguishment of debt of $12.9 million was recorded in the year ended December 31, 2020 resulting from our debt restructuring and we had no similar debt extinguishment in the year ended December 31, 2019.

Gain (Loss) on Revaluation of Embedded Derivatives

Gain (loss) on revaluation of embedded derivatives improved $2.6 million in the year ended December 31, 2020, as compared to the year ended December 31, 2019. This improvement was primarily due to the change in fair value of our sales contracts of embedded EPP derivatives valued using historical grid prices and available forecasts of future electricity prices to estimate future electricity prices.

Provision for Income Taxes

	Years Ended December 31,		Change	
	2020	**2019**	**Amount**	**%**
	(dollars in thousands)			
Income tax provision	$ 256	$ 633	$ (377)	(59.6)%

Income tax provision decreased in the year ended December 31, 2020, as compared to the year ended December 31, 2019, and was primarily due to fluctuations in the effective taxes payable on income earned by international entities.

Net Loss Attributable to Noncontrolling Interests and Redeemable Noncontrolling Interests

	Years Ended December 31,		Change	
	2020	**2019**	**Amount**	**%**
	(dollars in thousands)			
Less: Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	$ (21,534)	$ (19,052)	$ (2,482)	13.0 %

Total loss attributable to noncontrolling interests increased $2.5 million, or 13.0%, in the year ended December 31, 2020, as compared to the year ended December 31, 2019. The net loss increased due to increased losses in our PPA Entities, which are allocated to our noncontrolling interests.

Liquidity and Capital Resources

As of December 31, 2020, we had an accumulated deficit of approximately $3.1 billion. We have financed our operations, including the costs of acquisition and installation of our Energy Servers, mainly through a variety of financing arrangements and PPA Entities, credit facilities from banks, sales of our common stock, debt financings and cash generated from our operations. As of December 31, 2020, we had $168.0 million of total outstanding recourse debt, $222.9 million of non-recourse debt and $12.3 million of other long-term liabilities. See Note 7 - *Outstanding Loans and Security Agreements* in Part II, Item 8, *Financial Statements and Supplementary Data* for a complete description of our outstanding debt. As of December 31, 2020 and December 31, 2019, we had cash and cash equivalents of $246.9 million and $202.8 million, respectively.

We expect a certain current portion of the non-recourse debt would be refinanced by the PPA Entity prior to maturity. The combination of our existing cash and cash equivalents are expected to be sufficient to meet our anticipated cash flow needs for the next 12 months and thereafter for the foreseeable future. If these sources of cash are insufficient to satisfy our near-term or future cash needs, we may require additional capital from equity or debt financings to fund our operations, in particular, our manufacturing capacity, product development and market expansion requirements, to timely respond to competitive market pressures or strategic opportunities, or otherwise. In addition, we are continuously evaluating alternatives for efficiently funding our capital expenditures and ongoing operations. We may, from time to time, engage in a variety of financing transactions for such purposes. We may not be able to secure timely additional financing on favorable terms, or at all. The terms of any additional financings may place limits on our financial and operating flexibility. If we raise additional funds through further issuances of equity or equity-linked securities, our existing stockholders could suffer dilution in their percentage ownership of us, and any new securities we issue could have rights, preferences and privileges senior to those of holders of our common stock. As of December 31, 2020, the current portion of our total debt is $120.8 million.

Our future cash flow requirements may vary materially from those currently planned and will depend on many factors, including our rate of revenue growth, the timing and extent of spending on research and development efforts and other business initiatives, the rate of growth in the volume of system builds and the need for additional manufacturing space, the expansion of sales and marketing activities both in domestic and international markets, market acceptance of our products, and overall economic conditions including the impact of COVID-19 on our future operations, as described in the *COVID-19 Pandemic* section above. For further discussion on our PPA Entities, see Note 13 - *Portfolio Financings* in Part II, Item 8, *Financial Statements and Supplementary Data.*

Cash Flows

A summary of our sources and uses of cash, cash equivalents and restricted cash is as follows (in thousands):

	Years Ended December 31,	
	2020	**2019**
Net cash provided by (used in):		
Operating activities	$ (98,796)	$ 163,770
Investing activities	(37,913)	53,447
Financing activities	176,031	(120,314)

Net cash provided by (used in) our PPA Entities, which are incorporated into the consolidated statements of cash flows was as follows (in thousands):

	Years Ended December 31,	
	2020	2019
PPA Entities [1]		
Net cash provided by PPA operating activities	$ 26,039	$ 279,402
Net cash used in PPA financing activities	(23,784)	(167,259)
Net cash used in PPA financing activities		

[1] The PPA Entities' operating and financing cash flows are a subset of our consolidated cash flows and represents the stand-alone cash flows prepared in accordance with U.S. GAAP. Operating activities consist principally of cash used to run the operations of the PPA Entities, the purchase of Energy Servers from us and principal reductions in loan balances. Financing activities consist primarily of changes in debt carried by our PPAs, and payments from and distributions to noncontrolling partnership interests. We believe this presentation of net cash provided by (used in) PPA activities is useful to provide the reader with the impact to consolidated cash flows of the PPA Entities in which we have only a minority interest.

Operating Activities

Net cash used in operating activities for the year ended December 31, 2020 was $98.8 million and was primarily the result of net cash loss of $25.5 million plus the net increase in working capital of $73.3 million. Net cash loss is primarily comprised of a net loss of $179.1 million, adjusted for non-cash benefit items including: (i) depreciation and amortization of $52.3 million; (ii) non-cash lease expense of $5.3 million; (iii) impairment of equity method investment of $4.2 million; (iv) stock-based compensation of $73.9 million; (v) net loss on extinguishment of debt of $11.8 million; and (vi) amortization of debt issuance and premium cost, net, of $6.5 million; net of (vii) a gain on revaluation of derivative contracts of $0.5 million. Net cash used by changes in working capital consisted primarily of increases in: (i) accounts receivable of $61.7 million; (ii) inventories of $33.0 million; and (iii) prepaid expenses and other current assets of $3.1 million; plus decreases in: (iv) accounts payable of $0.6 million; (v) deferred revenue and customer deposits of $13.0 million; (vi) operating lease liability of $2.9 million and (vii) other long-term liabilities of $4.5 million. These uses of cash from working capital were partially offset by decreases in: (i) deferred cost of revenue of $19.9 million; and (ii) customer financing receivable and other of $5.2 million, and (iii) other long-term assets of $2.9 million; plus increases in: (iv) accrued expenses and other current liabilities of $17.8 million.

Net cash provided by operating activities for the year ended December 31, 2019 was $163.8 million and was the result of net cash earnings of $67.3 million plus net decrease in working capital of $96.5 million. Net cash earnings is primarily comprised of a net loss of $323.5 million, adjusted for non-cash benefit items including: (i) depreciation and amortization of approximately $78.6 million; (ii) PPA II and PPA IIIb decommissioning costs of $70.5 million; (iii) write-off of property, plant and equipment, net of $3.1 million; (iv) impairment of assets of $11.3 million; (v) a loss on revaluation of derivatives contracts of $2.8 million; (vi) stock-based compensation of $196.3 million; (vii) amortization of debt issuance cost of $22.1 million; plus (viii) an expense reclass to financing activities related to a debt make-whole payment reclassification of $5.9 million. Net cash provided by changes in working capital consisted primarily of decreases in: (i) accounts receivable of $52.0 million; (ii) inventory of $18.4 million; (iii) customer financing receivable and other of $5.5 million; (iv) prepaid expenses and other current assets of $8.6 million; and (v) other long-term assets of $3.6 million; plus increases in: (vi) accrued expenses and other current liabilities of $6.7 million; (vii) other long term liabilities of $4.4 million; and (viii) deferred revenue and contract liabilities of $37.1 million. These sources of cash from working capital were partially offset by increases in: (i) deferred cost of revenue of $22.0 million; and decreases in: (ii) accounts payable of $11.3 million and (iii) accrued warranty of $6.6 million.

Investing Activities

Net cash used in investing activities in the year ended December 31, 2020 was $37.9 million, which was entirely related to the purchase of long-lived assets.

Net cash provided by investing activities in the year ended December 31, 2019 was $53.4 million, which was primarily the result of net proceeds from maturities of marketable securities of $104.5 million, partially offset by $51.1 million used for the purchase of long-lived assets. Our use of cash in the year ended December 31, 2019 for the purchase of property, plant and equipment increased due to completing a move to our new corporate headquarters which is used for administration, research and development, and sales and marketing.

Financing Activities

Net cash provided by financing activities in the year ended December 31, 2020 was $176.0 million, which included borrowings from issuance of debt of $300.0 million, borrowings from issuance of debt to related parties of $30.0 million, proceeds from financing obligations of $26.3 million, contribution from noncontrolling interest of $6.5 million, and proceeds from issuance of common stock of $23.5 million. This was partially offset by repayment of debt of $178.6 million, debt issuance costs of $13.2 million, repayment of financing obligations of $10.8 million, and distributions paid to noncontrolling and redeemable noncontrolling interests of $7.6 million.

Net cash used in financing activities in the year ended December 31, 2019 was $120.3 million, which included payments to noncontrolling and redeemable noncontrolling interest of $56.5 million, distributions paid to our PPA Entity Investors of $12.5 million, repayments of debt of $121.5 million, and a the debt make-whole payment of $5.9 million related to our PPA II upgrade of Energy Servers, partially offset by proceeds from the issuance of common stock of $12.7 million.

Outstanding Loans and Security Agreements

The following is a summary of our debt as of December 31, 2020 (in thousands):

	Unpaid Principal Balance	Net Carrying Value			Unused Borrowing Capacity
		Current	Long-Term	Total	
10.25% notes due March 2027	$ 70,000	$ —	$ 68,614	$ 68,614	$ —
2.5% Green Notes	230,000	—	99,394	99,394	—
Total recourse debt	300,000	—	168,008	168,008	—
7.5% Term Loan due September 2028	34,456	2,826	28,920	31,746	—
6.07% Senior Secured Notes due March 2030	77,837	3,882	73,125	77,007	—
LIBOR + 2.5% Term Loan due December 2021	114,761	114,138	—	114,138	—
Letters of Credit due December 2021	—	—	—	—	968
Total non-recourse debt	227,054	120,846	102,045	222,891	968
Total debt	$ 527,054	$ 120,846	$ 270,053	$ 390,899	$ 968

In August 2020, we issued the Green Notes. The Green Notes had a face value of $200.0 million and included a Greenshoe option of up to $30.0 million, which was fully exercised by the initial purchaser, resulting in net proceeds to us after offering expenses of $220.1 million and resulted in new debt totaling $230.0 million. The primarily purpose and use of the proceeds from the Green Notes was to call and retire earlier issued notes that were priced at higher rates of interest and with other consideration.

In August 2020, we called a portion of the 10% Convertible Notes and the holders of those notes subsequently chose to convert those notes to equity in lieu of receiving cash. With the holders exercising this option, in September 2020, we then issued 19.1 million shares of our Class B common stock, which was subsequently converted to Class A common stock.

In September 2020, we called the remaining portion of the 10% Convertible Notes due 2021. In October 2020, the holder of those remaining notes chose to convert to equity in lieu of receiving cash. With the holder exercising this option, in October 2020, we issued 12.0 million shares of our Class B common stock, which was subsequently converted to Class A common stock.

In October 2020, we called our 10% Notes, with a face value of $70.0 million. After redemption fees, accrued and unpaid interest, we paid $84.3 million during November 2020.

These transactions improve our overall financial condition and our working capital, while reducing interest expense. The changes in our overall debt structure are expected to reduce our debt service from more than $59.7 million to under $12.9 million annually, resulting in an improved working capital position.

Contractual Obligations and Other Commitments

The following table summarizes our contractual obligations and the debt of our consolidated PPA Entities that is non-recourse to Bloom as of December 31, 2020:

	Payments Due By Period				
	Total	Less than 1 Year	1-3 Years	3-5 Years	More than 5 Years
	(in thousands)				
Contractual Obligations and Other Commitments:					
Recourse debt[1]	$ 300,000	$ —	$ 21,063	$ 259,415	$ 19,522
Non-recourse debt[2]	227,054	121,469	17,496	23,493	64,596
Operating leases	64,556	11,388	16,503	16,802	19,863
Financing leases	392	95	185	112	—
Service arrangements	1,857	1,297	560	—	—
Financing obligations	292,130	40,589	84,110	79,808	87,623
Natural gas fixed price forward contracts	2,574	2,351	223	—	—
Grant for Delaware facility	10,469	1,257	9,212	—	—
Interest rate swap	15,989	2,076	5,602	4,176	4,135
Supplier purchase commitments	616	—	616	—	—
Renewable energy credit obligations	367	325	42	—	—
Asset retirement obligations	500	500	—	—	—
Total	$ 916,504	$ 181,347	$ 155,612	$ 383,806	$ 195,739

[1] Our 10% Convertible Notes and our credit agreements related to the building of our facility in Newark, Delaware each contain cross-default or cross-acceleration provisions. See "Recourse Debt Facilities" above for more details.

[2] Each of the debt facilities entered into by PPA IIIa, PPA IV and PPA V contain cross-default provisions. See "Non-recourse Debt Facilities" above for more details.

Off-Balance Sheet Arrangements

We include in our consolidated financial statements all assets and liabilities and results of operations of our PPA Entities that we have entered into and over which we have substantial control. For additional information, see Note 13 - *Portfolio Financings* in Part II, Item 8, *Financial Statements and Supplementary Data.*

We have not entered into any other transactions that have generated relationships with unconsolidated entities or financial partnerships or special purpose entities. Accordingly, as of December 31, 2020 and December 31, 2019, we had no off-balance sheet arrangements.

Critical Accounting Policies and Estimates

The consolidated financial statements have been prepared in accordance with generally accepted accounting principles as applied in the United States ("U.S. GAAP") The preparation of the consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, costs and expenses and related disclosures. Our discussion and analysis of our financial results under Results of Operations below are based on our audited results of operations, which we have prepared in accordance with U.S. GAAP. In preparing these consoldiated financial statements, we make assumptions, judgments and estimates that can affect the reported amounts of assets, liabilities, revenues and expenses, and net income. On an ongoing basis, we base our estimates on historical experience, as appropriate, and on various other assumptions that we believe to be reasonable under the circumstances. Changes in the accounting estimates are reasonably likely to occur from period to period. Accordingly, actual results could differ significantly from the estimates made by our management. We evaluate our estimates and assumptions on an ongoing basis. To the extent that there are material differences between these estimates and actual results, our future financial statement presentation, financial condition, results of operations and cash flows will be affected. We believe that the following critical accounting policies involve a greater degree of judgment and complexity than our other accounting policies. Accordingly, these are the policies we believe are the most critical to understanding and evaluating the consolidated financial condition and results of operations.

The accounting policies that most frequently require us to make assumptions, judgments and estimates, and therefore are critical to understanding our results of operations, include:

Revenue Recognition

We apply Accounting Standards Codification ("ASC") Topic 606, *Revenue from Contracts with Customers*. We recognize revenue as we satisfy our performance obligations and transfer control of our products and services to our customers. Most of our contracts with customers contain performance obligations with a combination of our Energy Server product, installation and maintenance services. For these performance obligations, we allocate the total transaction price to each performance obligation based on the relative standalone selling price.

We generally recognize product revenue from contracts with customers at the point that control is transferred to the customers. This occurs when we achieve customer acceptance which is when the system has been installed and is running at full power or, in the case of sales to our international channel providers, based upon shipment terms.

We recognize installation revenue when the system has been installed and is running at full power.

Service revenue is recognized ratably over the term of the first or renewed one-year service period. Given our customers' renewal history, we anticipate that most of them will continue to renew their maintenance services agreements each year for the period of their expected use of the Energy Server. The contractual renewal price may be less than the standalone selling price of the maintenance services and consequently the contract renewal option may provide the customer with a material right. We estimate the standalone selling price for customer renewal options that give rise to material rights using the practical alternative by reference to optional maintenance services renewal periods expected to be provided and the corresponding expected consideration for these services. This reflects the fact that our additional performance obligations in any contractual renewal period are consistent with the services provided under the standard first-year warranty. Where we have determined that a customer has a material right as a result of their contract renewal option, we recognize that portion of the transaction price allocated to the material right over the period in which such rights are exercised.

Given that we typically sell an Energy Server with a maintenance service agreement and have not provided maintenance services to a customer who does not have use of an Energy Server, standalone selling prices are estimated using a cost-plus approach. Costs relating to Energy Servers include all direct and indirect manufacturing costs, applicable overhead costs and costs for normal production inefficiencies (i.e., variances). We then apply a margin to the Energy Servers which may vary with the size of the customer, geographic region and the scale of the Energy Server deployment. Costs relating to installation include all direct and indirect installation costs. The margin we apply reflects our profit objectives relating to installation. Costs for maintenance service arrangements are estimated over the life of the maintenance contracts and include estimated future service costs and future material costs. Material costs over the period of the service arrangement are impacted significantly by the longevity of the fuel cells themselves. After considering the total service costs, we apply a lower margin to our service costs than to our Energy Servers as it best reflects our long-term service margin expectations and comparable historical industry service margins. As a result, our estimate of our selling price is driven primarily by our expected margin on both the Energy Server and the maintenance service agreements based on their respective costs or, in the case of maintenance service agreements, the estimated costs to be incurred.

Valuation of 2.5% Green Convertible Senior Notes

In August 2020, we issued the Green Notes due August 2025, unless earlier repurchased redeemed or converted. In the accounting for the issuance of the Green Notes, we separated the $230.0 million aggregate principal amount into liability and equity components in accordance with ASC 470 – 20, *Debt with Conversion and Other Options*. The fair value of the liability component for the Green Notes of approximately $93.3 million was calculated by measuring the fair value of similar debt instruments that do not have an associated convertible feature. The carrying amount of the equity components for the Green Notes of approximately $138.1 million, representing the conversion option, was determined by deducting the fair value of the liability components from the principal amount of the notes. The difference between the principal amount of the notes and the liability components represents the debt discount, is presented as a reduction to the notes on our consolidated balance sheets, and is amortized to interest expense using the effective interest method over the remaining term of the notes. The equity components of the notes are included in additional paid-in capital on our consolidated balance sheets and is not remeasured as long as it continues to meet the conditions for equity classification.

As the valuation model used in determining the fair value of the liability component includes inputs subject to management's assumptions and judgements, determining the fair value of the liability component is a critical accounting estimate.

Leases: Incremental Borrowing Rate

We adopted ASC 842, *Leases* on January 1, 2020 on a modified retrospective basis. This guidance requires that, for all our leases, we recognize ROU assets representing our right to use the underlying asset for the lease term, and lease liabilities related to the rights and obligations created by those leases, on the balance sheet regardless of whether they are classified as finance or operating leases, with classification affecting the pattern and presentation of expenses and cash flows on the consolidated financial statements. Lease liabilities are measured at the lease commencement date as the present value of future minimum lease payments over the reasonably certain lease term. Lease ROU assets are measured as the lease liability plus initial direct costs and prepaid lease payments less lease incentives. In measuring the present value of the future minimum lease payments, we used our collateralized incremental borrowing rate as our leases do not generally provide an implicit rate. The determination of the incremental borrowing rate considers qualitative and quantitative factors as well as the estimated impact that the collateral has on the rate.

Stock-Based Compensation

We account for stock options and other equity awards, such as restricted stock units and performance-based stock units, to employees and non-employee directors under the provisions of ASC 718, *Compensation-Stock Compensation.* Accordingly, the stock-based compensation expense for these awards is measured based on the fair value on the date of grant. For stock options,we recognize the expense, net of estimated forfeitures, under the straight-line attribution over the requisite service period which is generally the vesting term. The fair value of the stock options is estimated using the Black-Scholes valuation model. For options with a vesting condition tied to the attainment of service and market conditions, stock-based compensation costs are recognized using Monte Carlo simulations. In addition, we use the Black-Scholes valuation model to estimate the fair value of stock purchase rights under the Bloom Energy Corporation 2018 Employee Stock Purchase Plan (the "2018 ESPP"). The fair value of the 2018 ESPP purchase rights is recognized as expense under the multiple options approach.

The Black-Scholes valuation model uses as inputs the fair value of our common stock and assumptions we make for the volatility of our common stock, the expected term of the award, the risk-free interest rate for a period that approximates the expected term of the stock options and the expected dividend yield. In developing estimates used to calculate assumptions, we established the expected term for employee options as well as expected forfeiture rates based on the historical settlement experience and after giving consideration to vesting schedules.

Income Taxes

We account for income taxes using the liability method under ASC 740, *Income Taxes*. Under this method, deferred tax assets and liabilities are determined based on net operating loss carryforwards, research and development credit carryforwards and temporary differences resulting from the different treatment of items for tax and financial reporting purposes. Deferred items are measured using the enacted tax rates and laws that are expected to be in effect when the differences reverse. We must assess the likelihood that deferred tax assets will be recovered as deductions from future taxable income. This determination is based on expected future results and the future reversals of existing taxable temporary differences. Furthermore, uncertain tax positions are evaluated by management and amounts are recorded when it is more likely than not that the position will be sustained upon examination, including resolution of any related appeals or litigation processes, based on the technical merits. Significant judgement is required throughout management's process in evaluating each uncertain tax position including future taxable income expectations and tax-planning strategies to determine whether the more likely than not recognition threshold has been met. We have provided a full valuation allowance on our domestic deferred tax assets because we believe it is more likely than not that our deferred tax assets will not be realized.

Principles of Consolidation

Our consolidated financial statements include the operations of our subsidiaries in which we have a controlling financial interest. We use a qualitative approach in assessing the consolidation requirements for each of our variable interest entities ("VIEs"), which we refer to as our PPA Entities. This approach focuses on determining whether we have the power to direct those activities that significantly affect their economic performance and whether we have the obligation to absorb losses, or the right to receive benefits that could potentially be significant to the PPA Entities. The considerations for VIE consolidation is a complex analysis that requires us to determine whether we are the primary beneficiary and therefore have the power to direct activities which are most significant to the PPA Entities.

Allocation of Profits and Losses of Consolidated Entities to Noncontrolling Interests and Redeemable Noncontrolling Interests

We generally allocate profits and losses to noncontrolling interests under the HLBV method. The HLBV method is a balance sheet-oriented approach for applying the equity method of accounting when there is a complex structure, such as the flip structure of the PPA Entities.

The determination of equity in earnings under the HLBV method requires management to determine how proceeds, upon a hypothetical liquidation of the entity at book value, would be allocated between our investors. The noncontrolling interest balance is presented as a component of permanent equity in the consolidated balance sheets.

Noncontrolling interests with redemption features, such as put options, that are not solely within our control are considered redeemable noncontrolling interests. Exercisability of put options are solely dependent upon the passage of time, and hence, such put options are considered to be probable of becoming exercisable. We elected to accrete changes in the redemption value over the period from the date it becomes probable that the instrument will become redeemable to the earliest redemption date of the instrument by using an interest method. The balance of redeemable noncontrolling interests on the balance sheets is reported at the greater of its carrying value or its maximum redemption value at each reporting date. The redeemable noncontrolling interests are classified as temporary equity and therefore are reported in the mezzanine section of the consolidated balance sheets as redeemable noncontrolling interests.

ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks as part of our ongoing business operations, primarily by exposure to changes in interest rates, in commodity fuel prices and in foreign currency.

Interest Rate Risk

Our cash is maintained in interest-bearing accounts and our cash equivalents are invested in money market funds. Lower interest rates would have an adverse impact on our interest income or potentially incur other expenses if a negative interest rate environment was to exist. Due to the short-term investment nature of our cash and cash equivalents, we believe that we do not have material financial statement exposure to changes in fair value as a result of changes in interest rates. Since we believe we have the ability to liquidate substantially all of this portfolio, we do not expect our operating results or cash flows to be materially affected to any significant degree by a sudden change in market interest rates on our investment portfolio.

To provide a meaningful assessment of the interest rate risk associated with our cash and cash equivalents, we performed a sensitivity analysis to determine the impact a change in interest rates would have on income statement and in investment fair values assuming a 1% decline in yield. Based on the investment positions in both December 31, 2020 and 2019, a hypothetical 1% decrease in interest rates across all maturities would result in a $4.1 million and $3.8 million decline in interest income and/or increase in other expenses on an annualized basis, respectively. As these investments have maturities of less than twelve months, changes with respect to the portfolio fair value would be limited to these amounts and only be realized if we were to terminate the investments prior to maturity.

We are exposed to interest rate risk related to our indebtedness that bears interest based on a floating LIBOR rate. We generally hedge such interest rate risks with the use of hedging instruments, and for these loans, changes in interest rates are generally offset by interest rate derivative swap contracts. For our fixed-rate debt, interest rate changes do not affect our earnings or cash flows. With the expected cessation of LIBOR as a referenced rate, we are currently evaluating impact of the adoption of ASU 2020-6 on our consolidated financial statements.

To provide a meaningful assessment of the interest rate risk for that portion of our outstanding loans associated with floating LIBOR and not covered by interest rate derivative swaps, we performed a sensitivity analysis to determine the impact a change in interest rates would have on our consolidated statements of operations assuming a 1% interest rate increase. Based on monthly floating-rate loan positions for the years ended December 31, 2020 and 2019, a hypothetical 1% increase in LIBOR would have resulted in a $0.2 million and a $0.3 million increase to our interest expense, respectively. These losses would be directly attributable to our PPA Entities.

Commodity Price Risk

We are subject to commodity price risk arising from price movements for natural gas that we supply to customers to operate our Energy Servers under certain power purchase agreements. While we entered into a natural gas fixed price forward contract with our gas supplier in 2011, the fuel forward contract meets the definition of a derivative under U.S. GAAP and accordingly, any changes in its fair value is recorded within cost of revenue in the consolidated statements of operations. The fair value of the contract is determined using a combination of factors including our credit rating and future natural gas prices.

To provide a meaningful assessment of the commodity price risk arising from price movements in the commodity futures contracts for natural gas, we performed a sensitivity analysis to determine the impact a change in natural gas commodity pricing would have on our consolidated statements of operations assuming a 10% change in the commodity contracts held. Based on monthly commodity positions for the years ended December 31, 2020 and 2019, a hypothetical 10% increase in the price of natural gas futures would have resulted in a $0.3 million and a $0.6 million adjustment to their balance sheet fair values, respectively.

Foreign Currency Risk

Our sales contracts are primarily denominated in U.S. dollars and, therefore, substantially all of our revenue is not subject to foreign currency market risk. Our supply contracts are primarily denominated in U.S. dollars and our corporate operations are domiciled in the U.S. However, we conduct some internationally domiciled field operations and therefore, find it necessary to transact in foreign currencies for limited operational purposes, necessitating that we hold foreign currency bank accounts.

To provide a meaningful assessment of the risk associated with our foreign currency holdings, we performed a sensitivity analysis to determine the impact a currency devaluation would have on our balance sheet assuming a 20% decline in the value of the U.S. dollar. Based on our foreign currency holdings as of December 31, 2020 and 2019, a hypothetical 20% devaluation of the U.S. dollar against foreign currencies would not be material to our reported cash position.

However, an increasing portion of our operating expenses are incurred outside the United States, are denominated in foreign currencies and are subject to such risk. Although not yet material, if we are not able to successfully hedge against the risks associated with currency fluctuations in our future activities, our financial condition and operating results could be adversely affected.

Actual future gains and losses associated with our investment portfolio, debt and derivative positions and foreign currency may differ materially from the sensitivity analyses performed as of December 31, 2020 and 2019 due to the inherent limitations associated with predicting the timing and amount of changes in interest rates, foreign currency exchange rates and our actual commodity derivative exposures and positions.

ITEM 8 - FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Index to Consolidated Financial Statements and Supplementary Data

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Bloom Energy Corporation

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheet of Bloom Energy Corporation and subsidiaries (the "Company") as of December 31, 2020, the related consolidated statements of operations, comprehensive loss, convertible redeemable preferred stock, redeemable noncontrolling interest, stockholders' equity (deficit) and noncontrolling interest, and cash flows, for the year then ended, 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 the results of its operations and its cash flows for the year then ended, 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 26, 2021, expressed an unqualified opinion on the Company's internal control over financial reporting.

The financial statements of the Company as of December 31, 2019, were audited by other auditors whose report dated March 31, 2020, on those statements included an explanatory paragraph that described the change in the Company's manner in which it accounts for revenue from contracts with customers discussed in Note 2 to the financial statements.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our 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 the financial statements are free of material misstatement, whether due to error or fraud. Our audit 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 audit 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 audit provides 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 was 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.

Revenue Recognition — Refer to Notes 2 and 3 to the financial statements

Critical Audit Matter Description

The Company recognizes revenue as they fulfill their performance obligations and transfer control of products and services to their customers. For sales of energy servers ("product revenue"), contracts may contain performance obligations with a combination of product, installation and maintenance services. For these performance obligations, the Company allocates revenue to each performance obligation estimating the standalone selling prices using a cost-plus approach. Costs relating to energy servers include all direct and indirect manufacturing costs, applicable overhead costs and costs for normal production inefficiencies (i.e., variances), with an applied margin to the energy servers. Maintenance service contracts are typically subject to optional renewal by customers on an annual basis and are assessed by the Company at contract inception to determine whether they provide customers with material rights that give rise to separate performance obligations.

The Company's product and installation revenue is recognized at a point in time, while maintenance service revenue, including revenue associated with any related customer material rights, is recognized over time as the Company performs maintenance service activities. The Company recognized $519 million of product revenue for the year ended December 31, 2020.

We identified revenue recognition for product revenue as a critical audit matter because of the judgments necessary for management to estimate the standalone selling prices and identifying the existence of material rights provided to customers. This required extensive audit effort and a high degree of auditor judgment when performing audit procedures to audit product revenue recognized during the year.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the judgments and estimates used by management to determine product revenue recognized during the year included the following, among others:

- We tested the effectiveness of internal controls related to product revenue recognized during the year, including those over management's evaluation of whether maintenance service renewal options at contract inception provided customers with material rights giving rise to separate performance obligations, and those over forecasted energy server costs and estimated margins in determining the standalone selling price.
- We tested product revenue recognized during the year, and the evaluation of whether maintenance service renewal options at contract inception provided customers with material rights which gave rise to separate performance obligations, by selecting a sample of contracts with customers, and performed the following:
    - We inspected executed contracts to identify the relevant product revenue performance obligations and evaluated the accounting treatment for each of the performance obligations.
    - We evaluated management's ability to estimate energy server replacement costs and margins for maintenance service renewal options used to identify material rights by (i) evaluating the reasonableness of management's cost-plus approach of estimating standalone selling price for maintenance service renewal options, (ii) testing the completeness, accuracy, and relevance of servicing and engineering costs used in management's estimates by comparing actual energy server replacement costs and margins to management's historical estimates for contracts that were completed, and (iii) evaluating the reasonableness of margin assumptions by comparing management's margin assumptions to the margins earned for similar services within the industry.
    - Based on our evaluation of management's ability to estimate energy server replacement costs and margins, we evaluated management's conclusion on whether maintenance service renewal options at contract inception provided customers with material rights which gave rise to separate performance obligations and the associated impact on product revenue recognized for the year.

Convertible Notes – Refer to Notes 5 and 7 to the financial statements

Critical Audit Matter Description

In August 2020, the Company issued $230 million aggregate principal amount of 2.5% green convertible senior notes due August 2025 ("Green Notes"), unless earlier repurchased, redeemed or converted. In accounting for the issuance of the Green Notes, the Company separated the Green Notes into liability and equity components. The carrying amount of the liability component was determined by measuring the fair value of similar debt instruments which do not have an associated conversion feature. The valuation model used in determining the fair value of the liability component for the Green Notes includes assumptions subject to management's judgment for the implied yield of debt that excludes a conversion option based on yields from companies with comparable credit ratings within the same industry. The carrying amount of the equity component, representing the conversion option, is determined by deducting the carrying amount of the liability component from the principal amount of the Green Notes.

We identified the accounting and the valuation of the Green Notes as a critical audit matter because of the complexity in applying the accounting framework for the Green Notes and the significant estimates and assumptions made by management in the determination of the fair value of the liability component. This required a high degree of auditor judgment and an increased extent of effort when performing audit procedures to evaluate the appropriateness of the accounting framework and the reasonableness of the fair value estimates and assumptions, which included the involvement of our fair value specialists.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the accounting for Green Notes, including the Company's assumptions related to the fair value of the liability component included the following, among others:

- We tested the effectiveness of controls over the Company's accounting for the Green Notes and over the determination of the fair value of the liability component.
- With the assistance of our debt issuance accounting specialists, we evaluated the Company's conclusions regarding the accounting treatment applied to the Green Notes.
- With the assistance of our fair value specialists, we evaluated the reasonableness of the valuation methodology and the significant assumptions, including the implied yield of debt that excludes a conversion option based on yields from companies with comparable credit ratings within the same industry used to determine the fair value of the liability component by:
  - Testing the source information underlying the fair value of the liability component and the mathematical accuracy of the calculation.
  - Developing an independent estimate and comparing it to the fair value of the liability component determined by management.

/s/ Deloitte & Touche LLP

San Jose, California
February 26, 2021

We have served as the Company's auditor since 2020.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Bloom Energy Corporation

Opinion on the Financial Statements

We have audited the consolidated balance sheet of Bloom Energy Corporation and its subsidiaries (the "Company") as of December 31, 2019, and the related consolidated statements of operations, of comprehensive loss, of convertible redeemable preferred stock, redeemable noncontrolling interest, stockholders' equity (deficit) and noncontrolling interest and of cash flows for each of the two years in the period ended December 31, 2019, including the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2019 in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for revenue from contracts with customers in 2019.

Basis for Opinion

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

We conducted our audits of these consolidated financial statements 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 consolidated 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 consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP
San Jose, California
March 31, 2020

We served as the Company's auditor from 2009 to 2020.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the stockholders and the Board of Directors of Bloom Energy Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Bloom Energy Corporation and its 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 26, 2021, expressed 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 Jose, California

February 26, 2021

Bloom Energy Corporation
Consolidated Balance Sheets
(in thousands)

	December 31,	
	2020	**2019**
Assets		
Current assets:		
Cash and cash equivalents[1]	$ 246,947	$ 202,823
Restricted cash[1]	52,470	30,804
Accounts receivable[1]	99,513	37,828
Inventories	142,059	109,606
Deferred cost of revenue	41,469	58,470
Customer financing receivable[1]	5,428	5,108
Prepaid expenses and other current assets[1]	30,718	28,068
Total current assets	618,604	472,707
Property, plant and equipment, net[1]	600,628	607,059
Operating lease right-of-use assets	35,621	—
Customer financing receivable, non-current[1]	45,268	50,747
Restricted cash, non-current[1]	117,293	143,761
Deferred cost of revenue, non-current	2,462	6,665
Other long-term assets[1]	34,511	41,652
Total assets	$ 1,454,387	$ 1,322,591
Liabilities, Redeemable Noncontrolling Interest, Stockholders' Equity (Deficit) and Noncontrolling Interest		
Current liabilities:		
Accounts payable	$ 58,334	$ 55,579
Accrued warranty	10,263	10,333
Accrued expenses and other current liabilities[1]	112,004	70,284
Deferred revenue and customer deposits[1]	114,286	89,192
Operating lease liabilities	7,899	—
Financing obligations	12,745	10,993
Recourse debt	—	304,627
Non-recourse debt[1]	120,846	8,273
Recourse debt - related parties	—	20,801
Non-recourse debt - related parties[1]	—	3,882
Total current liabilities	436,377	573,964
Derivative liabilities[1]	4,989	17,551
Deferred revenue and customer deposits, non-current[1]	87,463	125,529
Operating lease liabilities, non-current	41,849	—
Financing obligations, non-current	459,981	446,165
Recourse debt, non-current	168,008	75,962
Non-recourse debt, non-current[1]	102,045	192,180
Non-recourse debt - related parties, non-current[1]	—	31,087
Other long-term liabilities[1]	12,279	28,013
Total liabilities	1,312,991	1,490,451
Commitments and contingencies (Note 14)		
Redeemable noncontrolling interest	377	443
Stockholders' equity (deficit):		
Common stock	17	12
Additional paid-in capital	3,182,753	2,686,759
Accumulated other comprehensive income (loss)	(9)	19
Accumulated deficit	(3,103,937)	(2,946,384)
Total stockholders' equity (deficit)	78,824	(259,594)
Noncontrolling interest	62,195	91,291
Total liabilities, redeemable noncontrolling interest, stockholders' equity (deficit) and noncontrolling interest	$ 1,454,387	$ 1,322,591

[1]We have variable interest entities, which represent a portion of the consolidated balances recorded within these financial statement line items in the consolidated balance sheets (see Note 13 - *Portfolio Financings*).

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

Bloom Energy Corporation
Consolidated Statements of Operations
(in thousands, except per share data)

	Years Ended December 31,		
	2020	2019	2018
Revenue:			
Product	$ 518,633	$ 557,336	$ 400,638
Installation	101,887	60,826	68,195
Service	109,633	95,786	83,267
Electricity	64,094	71,229	80,548
Total revenue	794,247	785,177	632,648
Cost of revenue:			
Product	332,724	435,479	281,275
Installation	116,542	76,487	95,306
Service	132,329	100,238	100,689
Electricity	46,859	75,386	49,628
Total cost of revenue	628,454	687,590	526,898
Gross profit	165,793	97,587	105,750
Operating expenses:			
Research and development	83,577	104,168	89,135
Sales and marketing	55,916	73,573	62,807
General and administrative	107,085	152,650	118,817
Total operating expenses	246,578	330,391	270,759
Loss from operations	(80,785)	(232,804)	(165,009)
Interest income	1,475	5,661	4,322
Interest expense	(76,276)	(87,480)	(97,021)
Interest expense - related parties	(2,513)	(6,756)	(8,893)
Other income (expense), net	(8,318)	706	(999)
Loss on extinguishment of debt	(12,878)	—	—
Gain (loss) on revaluation of embedded derivatives	464	(2,160)	(22,139)
Loss before income taxes	(178,831)	(322,833)	(289,739)
Income tax provision	256	633	1,537
Net loss	(179,087)	(323,466)	(291,276)
Less: Net loss attributable to noncontrolling interests and redeemable noncontrolling interests	(21,534)	(19,052)	(17,736)
Net loss attributable to Class A and Class B common stockholders	(157,553)	(304,414)	(273,540)
Less: deemed dividend to noncontrolling interest	—	(2,454)	—
Net loss available to Class A and Class B common stockholders	$ (157,553)	$ (306,868)	$ (273,540)
Net loss per share available to Class A and Class B common stockholders, basic and diluted	$ (1.14)	$ (2.67)	$ (5.14)
Weighted average shares used to compute net loss per share available to Class A and Class B common stockholders, basic and diluted	138,722	115,118	53,268

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

Bloom Energy Corporation
Consolidated Statements of Comprehensive Loss
(in thousands)

	Years Ended December 31,		
	2020	**2019**	**2018**
Net loss	$ (179,087)	$ (323,466)	$ (291,276)
Other comprehensive income (loss), net of taxes:			
Unrealized gain (loss) on available-for-sale securities	(23)	14	26
Change in derivative instruments designated and qualifying as cash flow hedges	(6,896)	(6,085)	2,098
Other comprehensive income (loss), net of taxes	(6,919)	(6,071)	2,124
Comprehensive loss	(186,006)	(329,537)	(289,152)
Less: Comprehensive loss attributable to noncontrolling interests and redeemable noncontrolling interests	(28,425)	(24,842)	(15,905)
Comprehensive loss attributable to Class A and Class B stockholders	$ (157,581)	$ (304,695)	$ (273,247)

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

Bloom Energy Corporation

Consolidated Statements of Convertible Redeemable Preferred Stock, Redeemable Noncontrolling Interest, Stockholders' Equity (Deficit) and Noncontrolling Interest

(in thousands, except shares)

	Convertible Redeemable Preferred Stock		Redeemable Noncontrolling Interest	Class A and Class B Common Stock[1]		Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity (Deficit)	Noncontrolling Interest
	Shares	Amount		Shares	Amount					
Balances at December 31, 2017	71,740,162	1,465,841	$ 58,154	10,353,269	$ 1	$ 150,804	$ (162)	$ (2,350,564)	$ (2,199,921)	$ 155,372
Issuance of Class A common stock upon public offering, net	—	—	—	20,700,000	2	282,274	—	—	282,276	—
Issuance of Class B common stock upon conversion of convertible notes	—	—	—	5,734,440	1	221,579	—	—	221,580	—
Issuance of Class A and B common stock upon exercise of warrants	—	—	—	312,575	—	—	—	—	—	—
Conversion of redeemable convertible preferred stock Series A-G	(71,740,162)	(1,465,841)	—	71,740,162	7	1,465,834	—	—	1,465,841	—
Reclassification of redeemable convertible preferred stock warrant liability to additional paid-in capital	—	—	—	—	—	882	—	—	882	—
Reclassification of derivative liability into additional paid-in capital (as restated)	—	—	—	—	—	177,963	—	—	177,963	—
Issuance of common stock	—	—	—	166,667	—	2,500	—	—	2,500	—
Issuance of restricted stock awards	—	—	—	17,793	—	349	—	—	349	—
Exercise of stock options	—	—	—	396,277	—	1,521	—	—	1,521	—
Stock-based compensation	—	—	—	—	—	177,646	—	—	177,646	—
Unrealized loss on available-for-sale securities	—	—	—	—	—	—	26	—	26	—
Change in effective portion of interest rate swap agreement	—	—	2	—	—	—	267	—	267	1,829
Distributions to noncontrolling interests	—	—	(6,788)	—	—	—	—	—	—	(8,462)
Net income (loss)	—	—	5,893	—	—	—	—	(273,540)	(273,540)	(23,629)
Balances at December 31, 2018	—	—	57,261	109,421,183	11	2,481,352	131	(2,624,104)	(142,610)	125,110
Cumulative effect upon adoption of new accounting standard	—	—	—	—	—	—	—	(17,996)	(17,996)	—
Issuance of common stock	—	—	—	—	—	—	—	—	—	—
Buyout of equity investors in PPA IIIb (Note 13)	—	—	—	—	—	(2,454)	169	—	(2,285)	—
Conversion of Notes	—	—	—	616,302	—	6,933	—	—	6,933	—
Issuance of restricted stock awards	—	—	—	8,921,807	1	—	—	—	1	—
ESPP purchase	—	—	—	1,718,433	—	11,183	—	—	11,183	—
Exercise of stock options	—	—	—	358,564	—	1,529	—	—	1,529	—
Stock-based compensation	—	—	—	—	—	188,114	—	—	188,114	—

	Convertible Redeemable Preferred Stock			Class A and Class B Common Stock[1]						
	Shares	Amount	Redeemable Noncontrolling Interest	Shares	Amount	Additional Paid-In Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity (Deficit)	Noncontrolling Interest
Unrealized loss on available-for-sale securities	—	—	—	—	—	—	14	—	14	—
Change in effective portion of interest rate swap agreement	—	—	—	—	—	—	(295)	—	(295)	(5,790)
Distributions to noncontrolling interests	—	—	(4,011)	—	—	102		—	102	(5,970)
Mandatory redemption of noncontrolling interests	—	—	(55,684)	—	—	—	—	—	—	—
Cumulative effect of hedge accounting	—	—	—	—	—	—		130	130	(130)
Net income (loss)	—	—	2,877	—	—	—	—	(304,414)	(304,414)	(21,929)
Balances at December 31, 2019	—	—	443	121,036,289	$ 12	2,686,759	19	(2,946,384)	(259,594)	91,291
Conversion of Notes	—	—	—	35,881,250	4	300,848	—	—	300,852	—
Issuance of convertible notes	—	—	—	—	—	126,799	—	—	126,799	—
Adjustment of embedded derivative for debt modification	—	—	—	—	—	(24,071)	—	—	(24,071)	—
Issuance of restricted stock awards	—	—	—	7,806,038	1		—	—	1	—
ESPP purchase	—	—	—	1,937,825	—	8,499	—	—	8,499	—
Exercise of stock options	—	—	—	1,341,324	—	14,988	—	—	14,988	—
Stock-based compensation	—	—	—	—	—	68,931	—	—	68,931	—
Unrealized loss on available-for-sale securities	—	—	—	—	—	—	(23)	—	(23)	—
Change in effective portion of interest rate swap agreement	—	—	—	—	—	—	(5)	—	(5)	(6,891)
Distributions to noncontrolling interests	—	—	(45)	—	—	—	—	—	—	(7,205)
Contribution from noncontrolling interest	—	—	—	—	—	—	—	—	—	6,513
Net loss	—	—	(21)	—	—	—	—	(157,553)	(157,553)	(21,513)
Balances at December 31, 2020	—	$ —	$ 377	168,002,726	$ 17	$ 3,182,753	$ (9)	$ (3,103,937)	$ 78,824	$ 62,195

[1] Common Stock issued and converted to Class A Common and Class B Common effective July 2018.

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

Bloom Energy Corporation
Consolidated Statements of Cash Flows
(in thousands)

	Years Ended December 31, 2020	2019	2018
Cash flows from operating activities:			
Net loss	$ (179,087)	$ (323,466)	$ (291,276)
Adjustments to reconcile net loss to net cash provided by (used in) operating activities:			
Depreciation and amortization	52,279	78,584	53,887
Non-cash lease expense	5,328	—	—
Write-off of property, plant and equipment, net	38	3,117	939
Impairment of equity method investment	4,236	11,302	—
Write-off of PPA II and PPA IIIb decommissioned assets	—	70,543	—
Debt make-whole expense	—	5,934	—
Revaluation of derivative contracts	(497)	2,779	29,021
Stock-based compensation	73,893	196,291	168,482
Loss on long-term REC purchase contract	72	53	200
Revaluation of stock warrants	—	—	(9,108)
Loss on extinguishment of debt	11,785	—	—
Amortization of debt issuance and premium cost, net	6,455	22,130	25,437
Changes in operating assets and liabilities:			
Accounts receivable	(61,685)	51,952	(55,023)
Inventories	(33,004)	18,425	(36,974)
Deferred cost of revenue	19,910	(21,992)	14,223
Customer financing receivable and other	5,159	5,520	4,878
Prepaid expenses and other current assets	(3,124)	8,643	(8,032)
Other long-term assets	2,904	3,618	(202)
Accounts payable	(620)	(11,310)	18,307
Accrued warranty	(241)	(6,603)	1,498
Accrued expenses and other current liabilities	17,753	6,728	(5,984)
Deferred revenue and customer deposits	(12,972)	37,146	(21,774)
Operating lease liabilities	(2,855)	—	—
Other long-term liabilities	(4,523)	4,376	19,553
Net cash provided by (used in) operating activities	(98,796)	163,770	(91,948)
Cash flows from investing activities:			
Purchase of property, plant and equipment	(37,913)	(51,053)	(45,205)
Payments for acquisition of intangible assets	—	—	(3,256)
Purchase of marketable securities	—	—	(103,914)
Proceeds from maturity of marketable securities	—	104,500	27,000
Net cash provided by (used in) investing activities	(37,913)	53,447	(125,375)
Cash flows from financing activities:			
Proceeds from issuance of debt	300,000	—	—
Proceeds from issuance of debt to related parties	30,000	—	—
Repayment of debt	(176,522)	(119,277)	(18,770)
Repayment of debt to related parties	(2,105)	(2,200)	(1,390)
Debt make-whole payment	—	(5,934)	—
Debt issuance costs	(13,247)	—	—
Proceeds from financing obligations	26,279	72,334	70,265
Repayment of financing obligations	(10,756)	(8,954)	(6,188)
Contribution from noncontrolling interest	6,513	—	—
Payments to noncontrolling and redeemable noncontrolling interests	—	(56,459)	—
Distributions to noncontrolling and redeemable noncontrolling interests	(7,622)	(12,537)	(15,250)
Proceeds from issuance of common stock	23,491	12,713	1,521
Proceeds from public offerings, net of underwriting discounts and commissions	—	—	292,529
Payments of initial public offering issuance costs	—	—	(5,521)
Net cash provided by (used in) financing activities	176,031	(120,314)	317,196
Net increase in cash, cash equivalents, and restricted cash	39,322	96,903	99,873
Cash, cash equivalents, and restricted cash:			
Beginning of period	377,388	280,485	180,612
End of period	$ 416,710	$ 377,388	$ 280,485

Supplemental disclosure of cash flow information:

Cash paid during the period for interest	$ 71,651	$ 69,851	$ 59,549
Cash paid for amounts included in the measurement of lease liabilities:			
Operating cash flows from operating leases	2,855	—	—
Operating cash flows from financing leases	16	—	—
Financing cash flows from financing leases	45	—	—
Cash paid during the period for income taxes	371	860	1,748
Non-cash investing and financing activities:			
Liabilities recorded for property, plant and equipment	$ 7,175	$ 1,745	$ 12,236
Operating lease liabilities arising from obtaining right-of-use assets upon adoption of new lease guidance	39,775	—	—
Recognition of operating lease right-of-use asset during the year	12,829	—	—
Recognition of financing lease right-of-use asset during the year	385	—	—
Liabilities recorded for noncontrolling and redeemable noncontrolling interest	—	—	3,180
Reclassification of redeemable convertible preferred stock warrant liability to additional paid-in capital	—	—	882
Conversion of redeemable convertible preferred stock into additional paid-in capital	—	—	1,465,841
Conversion of 8% convertible promissory notes into additional paid-in capital	—	—	181,469
Conversion of 6% and 8% convertible promissory notes into additional paid-in capital to related parties	—	6,933	40,110
Conversion of 10% convertible promissory notes into Class A common stock	252,797	—	—
Conversion of 10% convertible promissory notes to related party into Class A common stock	50,800	—	—
Reclassification of derivative liability into additional paid-in capital	—	—	177,208
Reclassification of prior year prepaid initial public offering costs to additional paid-in capital	—	—	4,732
Accrued distributions to equity investors	—	373	576
Accrued interest for notes	1,298	1,812	19,041
Accrued interest for notes to related parties	—	—	2,733
Adjustment of embedded derivative related to debt extinguishment	24,071	—	—

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

Bloom Energy Corporation
Notes to Consolidated Financial Statements

1. Nature of Business, Liquidity and Basis of Presentation

Nature of Business

We design, manufacture, sell and, in certain cases, install solid-oxide fuel cell systems ("Energy Servers") for on-site power generation. Our Energy Servers utilize an innovative fuel cell technology and provide efficient energy generation with reduced operating costs and lower greenhouse gas emissions as compared to conventional fossil fuel generation. By generating power where it is consumed, our energy producing systems offer increased electrical reliability and improved energy security while providing a path to energy independence.

Liquidity

We have generally incurred operating losses and negative cash flows from operations since our inception. As of December 31, 2019, we had $401.4 million of total outstanding recourse debt, of which $273.4 million of 6% Convertible Promissory Notes ("6% Convertible Notes") were to mature on in December 2020. With the series of new debt offerings, debt extensions and conversions to equity that we completed during 2020, we had $168.0 million of total outstanding recourse debt as of December 31, 2020, all of which is classified as long-term debt. There is also no recourse debt repayment required in the next 12 months, and scheduled debt repayments will commence in June 2022.

The impact of the COVID-19 pandemic on our ability to execute our business strategy and on our financial position and results of operations remains uncertain. Our future cash flow requirements may vary materially from those currently planned and will depend on many factors, including our rate of revenue growth, the timing and extent of spending on research and development efforts and other business initiatives, the rate of growth in the volume of system builds, the expansion of sales and marketing activities, market acceptance of our product, our ability to secure financing for customer use, the timing of installations, and overall economic conditions including the impact of COVID-19 on our ongoing and future operations.

In the opinion of management, the combination of our existing cash and cash equivalents and operating cash flows is expected to be sufficient to meet our operational and capital cash flow requirements and other cash flow needs for the next 12 months from the date of issuance of this Annual Report on Form 10-K.

Correction of Previously Issued Consolidated Financial Statements

In preparation of the condensed consolidated financial statements for the three months ended March 31, 2020, errors in our Condensed Consolidated Statements of Comprehensive Loss were discovered. In the Consolidated Statements of Comprehensive Loss for the years ended December 31, 2019 and 2018, Comprehensive Loss as previously reported was understated by $5.8 million and overstated by $1.8 million, respectively. In addition, the reconciliation of Comprehensive Loss to Comprehensive Loss Attributable to Class A and Class B Stockholders was erroneously omitted. Management evaluated the impact of these errors to the previously issued financial statements and concluded the impacts were not material. The Consolidated Statements of Comprehensive Loss for the years ended December 31, 2019 and 2018 have been revised to correct the errors described above.

Basis of Presentation

We have prepared the consolidated financial statements included herein pursuant to the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"), and as permitted by those rules, including all disclosures required by generally accepted accounting principles as applied in the United States (“U.S. GAAP”). All intercompany transactions and balances have been eliminated upon consolidation.

Principles of Consolidation

These consolidated financial statements reflect our accounts and operations and those of our subsidiaries in which we have a controlling financial interest. We use a qualitative approach in assessing the consolidation requirement for each of our variable interest entities ("VIEs"), which we refer to as a tax equity partnership (each such VIE, also referred to as our power purchase agreement entities ("PPA Entities")). This approach focuses on determining whether we have the power to direct those activities of the PPA Entities that most significantly affect their economic performance and whether we have the obligation to absorb losses, or the right to receive benefits, that could potentially be significant to the PPA Entities. For all periods presented, we have determined that we are the primary beneficiary in all of our operational PPA Entities, as discussed in Note 13 - *Portfolio Financings*. We evaluate our relationships with the PPA Entities on an ongoing basis to ensure that we continue to be the primary beneficiary. All intercompany transactions and balances have been eliminated in consolidation.

We do not consolidate Third Party PPAs as we have determined that, although these entities are variable interest entities, we are not the primary beneficiary as we do not have the power to direct those activities of the Third Party PPAs that most significantly affect their economic performance and we do not have the obligation to absorb losses, or the right to receive benefits, that could potentially be significant to the Third Party PPAs.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and the accompanying notes. The most significant estimates include the determination of the stand-alone selling price, including material rights estimates, inventory valuation, specifically excess and obsolescence provisions for obsolete or unsellable inventory and, in relation to property, plant and equipment (specifically Energy Servers), assumptions relating to economic useful lives and impairment assessments.

Other accounting estimates include variable consideration relating to product performance guaranties, assumptions to compute the fair value of debt financings, lease and non-lease components and related financing obligations such as incremental borrowing rates, estimated output, efficiency and residual value of the Energy Servers, product performance warranties and guaranties and extended maintenance, derivative valuations, estimates for recapture of the U.S. investment tax credit and similar federal tax benefits, estimates relating to contractual indemnities provisions, estimates for income taxes and deferred tax asset valuation allowances, and stock-based compensation costs. The full extent to which the COVID-19 pandemic will directly or indirectly impact our business, results of operations and financial condition, including sales, expenses, our allowance for doubtful accounts, stock-based compensation, the carrying value of our long-lived assets, inventory, financial assets, and valuation allowances for tax assets, will depend on future developments that are highly uncertain, including as a result of new information that may emerge concerning the COVID-19 pandemic and the actions taken to contain it or treat it, as well as the economic impact on local, regional, national and international customers, suppliers and markets. We have made estimates of the impact of COVID-19 within our consolidated financial statements and there may be changes to those estimates in future periods as new information becomes available. Actual results could differ materially from these estimates under different assumptions and conditions.

Concentration of Risk

Geographic Risk - The majority of our revenue and long-lived assets are attributable to operations in the United States for all periods presented. Additionally, we sell our Energy Servers in Japan, India, and the Republic of Korea (collectively, the "Asia Pacific region"). In the year ended December 31, 2020, 2019 and 2018, total revenue in the Asia Pacific region was 35%, 23% and 14%, respectively, of our total revenue.

Credit Risk - At December 31, 2020, one customer, SK Engineering and Construction Co., Ltd. ("SK E&C"), accounted for approximately 56% of accounts receivable. At December 31, 2019, two customers, Costco Wholesale Corporation and The Kraft Group LLC, accounted for approximately 19% and 17% of accounts receivable, respectively. To date, we have not experienced any credit losses.

Customer Risk - In the year ended December 31, 2020, revenue from two customers, SK E&C and Duke Energy Corporation, accounted for approximately 34% and 28%, respectively, of our total revenue. In the year ended December 31, 2019, revenue from two customers, The Southern Company and SK E&C, accounted for approximately 34% and 23%, respectively, of our total revenue. In the year ended December 31, 2018, revenue from customer The Southern Company accounted for approximately 51% of our total revenue. Duke Energy and The Southern Company each indirectly own Operating Companies which are party to a portfolio of power purchase agreements (each, a “PPA”). Each Operating Company purchased the Energy Servers contemplated by each PPA from us. The sale of an Operating Company with a portfolio of PPAs in which we have no equity interest is called a “Third-Party PPA.”

2. Summary of Significant Accounting Policies

Revenue Recognition

We primarily earn product and installation revenue from the sale and installation of our Energy Servers, service revenue by providing services under operations and maintenance services contracts and electricity revenue by selling electricity to customers under PPAs. We offer our customers several ways to finance their use of a Bloom Energy Server. Customers, including some of our international channel providers and Third Party PPAs, may choose to purchase our Energy Servers outright. Customers may also enter into service contracts with us for the purchase of electricity generated by our Energy Servers (a "Managed Services Arrangement"), which is then financed through one of our financing partners ("Managed Services Financing"), or as a traditional lease. Finally, customers may purchase electricity through our PPA Entities ("Portfolio Financings").

Revenue Recognition Under ASC 606 Revenue from Contracts with Customers

In May 2014, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2014-09, *Revenue from Contracts with Customers* ("ASU 2014-09"). We adopted ASU 2014-09 and its related amendments (collectively, “ASC 606”) as of January 1, 2019 using the modified retrospective method.

In applying ASC 606, revenue related to contracts with customers is recognized by following a five-step process:

Identify the contract(s) with a customer. Evidence of a contract generally consists of a purchase order issued pursuant to the terms and conditions of a distributor, reseller, purchase, use and maintenance agreement, maintenance services agreements or energy supply agreement.

Identify the performance obligations in the contract. Performance obligations are identified in our contracts and include transferring control of an Energy Server, installation of Energy Servers, providing maintenance services and maintenance services renewal options which, in certain situations, provide customers with material rights.

Determine the transaction price. The purchase price stated in an agreed-upon purchase order or contract is generally representative of the transaction price. When determining the transaction price, we consider the effects of any variable consideration, which include performance penalties that may be payable to our customers.

Allocate the transaction price to the performance obligations in the contract. The transaction price in a contract is allocated based upon the relative standalone selling price of each distinct performance obligation identified in the contract.

Recognize revenue when (or as) we satisfy a performance obligation. We satisfy performance obligations either over time or at a point in time as discussed in further detail below. Revenue is recognized at the time the related performance obligation is satisfied by transferring control of the promised products or services to a customer.

We frequently combine contracts governing the sale and installation of an Energy Server with the related maintenance services contracts and account for them as a single contract at contract inception to the extent the contracts are with the same customer. These contracts are not combined when the customer for the sale and installation of the Energy Server is different to the maintenance services contract customer. We also assess whether any contract terms including default provisions, put or call options result in components of our contracts being accounted for as financing or leasing transactions outside of the scope of ASC 606.

Most of our contracts contain performance obligations with a combination of our Energy Server product, installation and maintenance services. For these performance obligations, we allocate the total transaction price to each performance obligation based on the relative standalone selling price. Our maintenance services contracts are typically subject to renewal by customers on an annual basis. We assess these maintenance services renewal options at contract inception to determine whether they provide customers with material rights that give rise to separate performance obligations.

The total transaction price is determined based on the total consideration specified in the contract, including variable consideration in the form of a performance guaranty payment that represents potential amounts payable to customers. The expected value method is generally used when estimating variable consideration, which typically reduces the total transaction price due to the nature of the performance obligations to which the variable consideration relates. These estimates reflect our historical experience and current contractual requirements which cap the maximum amount that may be paid. The expected value method requires judgment and considers multiple factors that may vary over time depending upon the unique facts and circumstances related to each performance obligation. Depending on the facts and circumstances, a change in variable consideration estimate will either be accounted for at the contract level or using the portfolio method. We also consider the customers’ rights of return in determining the transaction price where applicable.

We exclude from the transaction price all taxes assessed by governmental authorities that are both (i) imposed on and concurrent with a specific revenue-producing transaction and (ii) collected from customers. Accordingly, such tax amounts are not included as a component of net sales or cost of sales. These tax amounts are recorded in cost of electricity revenue, cost of service revenue and general and administrative operating expense.

We allocate the transaction price to each distinct performance obligation based on relative standalone selling prices. Given that we typically sell an Energy Server with a maintenance services agreement and have not provided maintenance services to a customer who does not have use of an Energy Server, standalone selling prices are estimated using a cost-plus approach. Costs relating to Energy Servers include all direct and indirect manufacturing costs, applicable overhead costs and costs for normal production inefficiencies (i.e., variances). We then apply a margin to the Energy Servers which may vary with the size of the customer, geographic region and the scale of the Energy Server deployment. As our business offerings and eligibility for the Investment Tax Credit ("ITC") evolve over time, we may be required to modify the expected margin in subsequent periods and our revenue could be adversely affected. Costs relating to installation include all direct and indirect installation costs. The margin we apply reflects our profit objectives relating to installation. Costs for maintenance services arrangements are estimated over the life of the maintenance contracts and include estimated future service costs and future material costs. Material costs over the period of the service arrangement are impacted significantly by the longevity of the fuel cells themselves. After considering the total service costs, we apply a lower margin to our service costs than to our Energy Servers as it best reflects our long-term service margin expectations and comparable historical industry service margins. As a result, our estimate of our selling price is driven primarily by our expected margin on both the Energy Server and the maintenance services agreements based on their respective costs or, in the case of maintenance services agreements, the estimated costs to be incurred.

We recognize product and installation revenue at the point in time that the Customer obtains control of the Energy Server. We recognize maintenance services revenue, including revenue associated with any related customer material rights, over time as we perform service maintenance activities.

Amounts billed to customers for shipping and handling activities are considered contract fulfillment activities and not a separate performance obligation of the contract. Shipping and handling fees are recorded as revenue and the related cost is a cost to fulfill the contract that is recognized within costs of goods sold.

The following is a description of the principal activities from which we generate revenue. Our four revenue streams are classified as follows:

Product Revenue - All of our product revenue is generated from the sale of our Energy Servers to direct purchase customers, including financing partners on Third-Party PPAs, international channel providers and traditional lease customers. We generally recognize product revenue from contracts with customers at the point that control is transferred to the customers. This occurs when we achieve customer acceptance which is when the system has been installed and is running at full power or, in the case of sales to our international channel providers, based upon shipment terms.

Under our traditional lease financing option, we sell our Energy Servers through a direct sale to a financing partner who, in turn, leases the Energy Servers to the customer under a lease agreement. With our sales to our international channel providers, our international channel providers typically sell the Energy Servers to, or sometimes provide a PPA to, an end customer. In both traditional lease and international channel providers transactions, we contract directly with the end customer to provide extended maintenance services after the end of the standard warranty period. As a result, since the customer that purchases the server is a different and unrelated party to the customer that purchases extended warranty services, the product and maintenance services contract are not combined

Installation Revenue - Nearly all of our installation revenue relates to the installation of Energy Servers sold to customers as part of a direct purchase and to financing parties as part of a traditional lease, Managed Services Financing, or Portfolio Financing. Generally, we recognize installation revenue when the system has been installed and is running at full power.

Payments received from customers are recorded within deferred revenue and customer deposits in the consolidated balance sheets until control is transferred. The related cost of such product and installation is also deferred as a component of deferred cost of revenue in the consolidated balance sheets until control is transferred.

Service Revenue - Service revenue is generated from maintenance services agreements. As part of our initial contract with customers for the sale and installation of our Energy Servers, we typically provide a standard one-year warranty which covers defects in materials and workmanship and manufacturing or performance conditions under normal use and service for the first year following acceptance. As part of this standard first-year warranty, we also monitor the operations of the underlying systems and provide output and efficiency guaranties. We have determined that this standard first-year warranty is a distinct performance obligation - being a promise to stand-ready to maintain the Energy Servers when and if required during the first year following installation. We also sell to our customers extended annual maintenance services that effectively extend the standard first-year warranty coverage at the customer's option. These customers generally have an option to renew or cancel the extended maintenance services on an annual basis and nearly every customer has renewed historically. Similar to the standard first-year warranty, the optional extended annual maintenance services are considered a distinct performance obligation – being a promise to stand-ready to maintain the Energy Servers when and if required during the renewal service year.

Service revenue is recognized ratably over the term of the first or renewed one-year service period.

Given our customers' renewal history, we anticipate that most of them will continue to renew their maintenance services agreements each year for the period of their expected use of the Energy Server. The contractual renewal price may be less than the standalone selling price of the maintenance services and consequently the contract renewal option may provide the customer with a material right. We estimate the standalone selling price for customer renewal options that give rise to material rights using the practical alternative by reference to optional maintenance services renewal periods expected to be provided and the corresponding expected consideration for these services. This reflects the fact that our additional performance obligations in any contractual renewal period are consistent with the services provided under the standard first-year warranty. Where we have determined that a customer has a material right as a result of their contract renewal option, we recognize that portion of the transaction price allocated to the material right over the period in which such rights are exercised.

Payments from customers for the extended maintenance contracts are received at the beginning of each service year. Accordingly, the customer payment received is recorded as a customer deposit and revenue is recognized over the related service period as the services are performed.

Electricity Revenue - We sell electricity produced by our Energy Servers owned directly by us or by our consolidated PPA entities. Our PPA Entities purchase Energy Servers from us and sell electricity produced by these systems to customers through long-term PPAs. Customers are required to purchase all of the electricity produced by those Energy Servers at agreed-upon rates over the course of the PPAs' contractual term.

In addition, in certain Managed Services Financings pursuant to which we are party to a Managed Services Agreement with a customer in a sale-leaseback-sublease arrangement we may recognize electricity revenue. We first determine whether the Energy Servers under the sale-leaseback arrangement of a Managed Services Financing were "integral equipment". As the Energy Servers were determined not to be integral equipment, we determine if the leaseback was classified as a financing lease or an operating lease.

Under ASC 840 *Leases*, ("ASC 840"), our Managed Services Agreements with the financiers were classified as capital leases and were accordingly recorded as financing transactions, while the sub-lease arrangements with the end customer were classified as operating leases. We have determined that the financiers are our customers in our Managed Services Agreements. In these Managed Services Financings, we enter into an agreement with a customer for a certain term. In exchange for the use of the Energy Server and its generated electricity, the customer makes a monthly payment. The customer's monthly payment includes a fixed monthly capacity-based payment, and in some cases also includes a performance-based payment based on the performance of the Energy Server. The fixed capacity-based payments made by the customer are applied toward our obligation to pay down the financing obligation with the financier. The performance-based payment is transferred to us as compensation for operations and maintenance services and is recognized as electricity revenue. We allocate the total payments received based on the relative standalone selling prices to electricity revenue and to service revenue. Electricity revenue relating to PPAs was typically accounted for in accordance with ASC 840, and service revenue in accordance with ASC 606.

We adopted ASC 842 *Leases*, ("ASC 842") with effect from January 1, 2020. Under ASC 842, our Managed Services Agreements with the financier continue to be accounted for as financing transactions because the repurchase options in these agreements prevent the transfer of control of the systems to the financier. We also determined that the sub-lease arrangements with the customer are not within the scope of ASC 842 because the customer does not have the right to control the use of the underlying assets (i.e., the Energy Servers). Accordingly, for transactions entered into on or after January 1, 2020 such arrangements with customers are accounted for under ASC 606. Under ASC 606, we recognize revenue for the electricity generated as electricity revenue.

Transactions entered into with customers prior to January 1, 2020 carried over their classification as operating leases and continue to be accounted for consistent with prior years as described in the paragraph above. Refer below under *Accounting Guidance Implemented in 2020* for further discussion regarding our managed services arrangements.

We recognize revenue from the satisfaction of performance obligations under our PPAs and Managed Services Financings as the electricity is provided over the term of the agreement in the amount invoiced, which reflects the amount of consideration to which we have the right to invoice and which corresponds to the value transferred under such arrangements.

Contract Modifications

Contract modifications are accounted for as separate contracts if the additional products and services are distinct and priced at standalone selling prices. If the additional products and services are distinct, but not priced at standalone selling prices, the modification is treated as a termination of the existing contract and the creation of a new contract. If the additional products and services are not distinct within the context of the contract, the modification is combined with the original contract and either an increase or decrease in revenue is recognized on the modification date.

Deferred Revenue

We recognize a contract liability (referred to as deferred revenue in our consolidated financial statements) when we have an obligation to transfer products or services to a customer in advance of us satisfying a performance obligation and the contract liability is reduced as performance obligations are satisfied and revenue is recognized. The related cost of such product is deferred as a component of deferred cost of revenue in the consolidated balance sheets. Prior to shipment of the product or the commencement of performance of maintenance services, any prepayment made by the customer is recorded as a customer deposit. Deferred revenue related to material rights for options to renew are recognized in revenue over the maintenance services period.

A description of the principal activities from which we recognize cost of revenues associated with each of our revenue streams are classified as follows:

Cost of Product Revenue - Cost of product revenue consists of costs of our Energy Servers that we sell to direct purchase, including financing partners on Third-Party PPAs, international channel providers and traditional lease customers. It includes costs paid to our materials suppliers, direct labor, manufacturing and other overhead costs, shipping costs, provisions for excess and obsolete inventory and the depreciation costs of our equipment. Warranty costs are also included in cost of product revenue, see *Warranty Costs* below.

Cost of Installation Revenue - Cost of installation revenue primarily consists of the costs to install our Energy Servers that we sell to direct purchase, including financing partners on Third-Party PPAs and traditional lease customers. It includes costs paid to our materials and service providers, personnel costs, shipping costs, and allocated costs.

Cost of Service Revenue - Cost of service revenue consists of costs incurred under maintenance service contracts for all customers. It includes personnel costs for our customer support organization, certain allocated costs and extended maintenance-related product repair and replacement costs.

Cost of Electricity Revenue - Cost of electricity revenue primarily consists of the depreciation of the cost of the Energy Servers owned by us or the consolidated PPA Entities and the cost of gas purchased in connection with our first PPA Entity. The cost of electricity revenue is generally recognized over the term of the Managed Services agreement or customer's PPA contract. The cost of depreciation of the Energy Servers is reduced by the amortization of any U.S. Treasury Department grant payment in lieu of the energy investment tax credit associated with these systems.

Revenue Recognized from Portfolio Financings Through PPA Entities *(See Note 13 - Portfolio Financings)*

In 2010, we began selling our Energy Servers to tax equity partnerships in which we held an equity interest as a managing member, or a PPA Entity. This program was financed by the sale of an Operating Company counter-party to a portfolio of PPAs to a PPA Entity. The investors in a PPA Entity contribute cash to the PPA Entity in exchange for an equity interest, which then allows the PPA Entity to purchase the Operating Company and the Energy Servers contemplated by the portfolio of PPAs owned by such Operating Company.

The cash contributions held are classified as short-term or long-term restricted cash according to the terms of each PPA Entity's governing documents. As we identified customers, the Operating Company entered into a PPA with the customer pursuant to which the customer agreed to purchase the power generated by one or more Energy Servers at a specified rate per kilowatt hour for a specified term, which can range from 10 to 21 years. The Operating Company, wholly owned by the PPA Entity, typically entered into a maintenance services agreement with us following the first year of service to extend the standard one-year performance warranties and guaranties. This intercompany arrangement is eliminated on consolidation. Those PPAs that qualify as leases are classified as either sales-type leases or operating leases and those that do not qualify as leases are classified as tariff agreements or revenue arrangements with customers. For arrangements classified as operating leases, tariff agreements, or revenue arrangements with customers, income is recognized as contractual amounts are due when the electricity is generated and presented within electricity revenue on the consolidated statements of operations.

Sales-type Leases - Certain Portfolio Financings with PPA Entities entered into prior to our adoption of ASC 842 qualified as sales-type leases in accordance with ASC 840. The classification for such arrangements were carried over and accounted for as sales-type leases under ASC 842. See additional discussion below under *Accounting Guidance Implemented in 2020*. We are responsible for the installation, operation and maintenance of the Energy Servers at the customers' sites, including running the Energy Servers during the term of the PPA which ranges from 10 to 15 years. Based on the terms of the PPAs, we may also be obligated to supply fuel for the Energy Servers. The amount billed for the delivery of electricity to customers primarily consists of returns on the amounts financed including interest revenue, service revenue and fuel revenue for certain arrangements.

As the Portfolio Financings through PPA Entities entered into prior to our adoption of ASC 842 contain a lease, the consideration received is allocated between the lease elements (lease of property and related executory costs) and non-lease elements (other products and services, excluding any derivatives) based on relative fair value. Lease elements include the leased system and the related executory costs (i.e. installation of the system, electricity generated by the system, maintenance costs). Non-lease elements include service, fuel and interest related to the leased systems.

Service revenue and fuel revenue are recognized over the term of the PPA as electricity is generated. For those transactions that contain a lease, the interest component related to the leased system is recognized as interest revenue over the life of the lease term. The customer has the option to purchase the Energy Servers at the then fair market value at the end of the PPA contract term.

Service revenue related to sales-type leases of $2.3 million, $2.9 million, and $3.4 million for the years ended December 31, 2020, 2019 and 2018, respectively, is included in electricity revenue in the consolidated statements of operations. We have not entered into any new Portfolio Financing arrangements through PPA Entities during the last three years. Accordingly, there was no product revenue for such arrangements during the years ended December 31, 2020, 2019, or 2018.

Operating Leases - Certain Portfolio Financings with PPA Entities entered into prior to the adoption of ASC 842 that were deemed leases in substance, but did not meet the criteria of sales-type leases or direct financing leases in accordance with ASC 840, were accounted for as operating leases. The classification for such arrangements were carried over and accounted for as operating leases under ASC 842. *See* additional discussion below under *Accounting Guidance Implemented in 2020.* Revenue under these arrangements is recognized as electricity sales and service revenue and is provided to the customer at rates specified under the PPAs. During the years ended December 31, 2020, 2019, and 2018, revenue from electricity sales from these Portfolio Financings with PPA Entities amounted to $27.7 million, $29.7 million, and $30.9 million, respectively. During the years ended December 31, 2020, 2019, and 2018, service revenue amounted to $13.8 million, $14.6 million, and $15.2 million, respectively.

Prior to Adoption of ASC 606 Revenue from Contracts with Customers

Prior to the adoption of ASC 606, we recognized revenue from contracts with customers for the sales of products, installation and services in accordance with ASC 605-25, *Revenue Recognition for Multiple-Element Arrangements.*

Revenue from the sale and installation of Energy Servers was recognized when all of the following criteria were met:

- Persuasive evidence of an arrangement existed. We relied upon non-cancelable sales agreements and purchase orders to determine the existence of an arrangement.
- Delivery and acceptance had occurred. We used shipping documents and confirmation from our installations team that the deployed systems were running at full power as defined in each contract to verify delivery and acceptance.
- The fee was fixed or determinable. We assessed whether the fee was fixed or determinable based on the payment terms associated with the transaction.
- Collectability was reasonably assured. We assessed collectability based on the customer's credit analysis and payment history.

When these criteria were met, we allocated revenue to each element of the customer arrangement (product, installation and services) based on an estimated selling price at the arrangement inception. The estimated selling price for each element was based upon the following hierarchy: vendor-specific objective evidence ("VSOE") of selling price, if available; third-party evidence ("TPE") of selling price, if VSOE of selling price is not available; or best estimate of selling price ("BESP") if neither VSOE of selling price nor TPE of selling price are available. We limited the amount of revenue recognized for delivered elements to an amount that was not contingent upon future delivery of additional products or services or upon meeting any specified performance conditions.

We had not been able to obtain reliable evidence of the selling price of the standalone Energy Server. Given that we typically sold an Energy Server with a maintenance service agreement and had not provided maintenance services to a customer who did not have use of an Energy Server, we had no evidence of selling prices for either and virtually no customers had elected to cancel their maintenance service agreements while continuing to operate the Energy Servers. Our objective was to determine the price at which we would have transacted business if the items were being sold separately. As a result, our estimate of our selling price was driven primarily by our expected margin on both the Energy Server and installation based on their respective costs and, in the case of maintenance service agreements, the estimated costs to be incurred during the expected service period.

Costs for Energy Servers included all direct and indirect manufacturing costs, applicable overhead costs and costs for normal production inefficiencies (i.e., variances). We then applied a margin to the Energy Servers and to expected installation costs to determine the selling price to be used in our BESP model. Costs for maintenance services arrangements were estimated over the expected life of the maintenance contracts and included estimated future service costs and future material costs. Material costs over the expected period of the service arrangement were impacted significantly by the longevity of the fuel cells themselves. After considering the total service costs, we applied a lower margin to our service costs than to our Energy Servers as it best reflected our long-term service margin expectations.

Incentives and Grants

Tariff Agreement - One of our PPA entities entered into an agreement with Delmarva Power and Light ("Delmarva"), an energy company that supplies electricity and natural gas to its customers, PJM Interconnection ("PJM"), a regional transmission organization, and the State of Delaware under which PPA II provided the energy generated from its Energy Servers to PJM and received a tariff as collected by Delmarva.

Revenue at the tariff rate was recognized as electricity sales and service revenue as it was generated over the term of the arrangement until the final repowering in December 2019. Revenue relating to power generation at the Delmarva sites of zero, $11.3 million, and $23.0 million for the years ended December 31, 2020, 2019, and 2018, respectively, is included in electricity sales in the consolidated statements of operations. Revenue relating to power generation at the Delmarva sites of zero, $6.8 million, and $13.7 million for the years ended December 31, 2020, 2019, and 2018, respectively, is included in service revenue in the consolidated statements of operations.

Investment Tax Credits - Through December 31, 2016, our Energy Servers were eligible for federal ITCs that accrued to eligible property under Internal Revenue Code Section 48. Under our Portfolio Financings with PPA Entities, ITCs are primarily passed through to Equity Investors with approximately 1% to 10% of incentives received by us. These incentives are accounted for by using the flow-through method. On February 9, 2018, the U.S. Congress passed legislation to extend the federal ITCs for fuel cell systems applicable retroactively to January 1, 2017. On December 21, 2020, the U.S. Congress passed legislation to extend the federal ITCs at a rate of 26% for a further two years.

The ITC program has operational criteria for the first five years after the qualified equipment is placed in service. If the qualified energy property is disposed or otherwise ceases to be investment credit property before the close of the five-year recapture period is fulfilled, it could result in a partial reduction of the federal tax incentives. No recapture has occurred during the years ended December 31, 2020, 2019 and 2018.

Recapture of federal tax incentives, including the investment tax credit, and Indemnifications

Our Energy Servers are eligible for federal ITCs that accrued to qualified property under Internal Revenue Code Section 48 when placed into service. However, the ITC program has operational criteria that extend for five years. If the energy property is disposed or otherwise ceases to be qualified investment credit property before the close of the five year recapture period is fulfilled, it could result in a partial reduction of the ITC. Our sale of Energy Servers to PPA Entities and pursuant to Third-Party PPAs, in each case pursuant to a Portfolio Financing, were by the PPA Entities or tax equity partnerships in which we did not have an equity interest (such transaction, a "Third-Party PPA" and the tax equity partnership purchaser, an "Investment Company") and, therefore, the PPA Entities or Investment Companies, as the case may be, bear the risk of recapture if the assets placed in service do not meet the ITC operational criteria in the future. As part of our upgrade of Energy

Servers during 2019, we have agreed to indemnify our customer for up to $108.7 million should benefits expected from anticipated ITC and established tariffs fail to occur. We believe these events to be less than likely to occur and have not established financial reserves.

Warranty Costs

We generally warrant our products sold to our customers, international channel providers, and financing parties for the first year following the date of acceptance of the Energy Servers. This standard warranty covers defects in materials, workmanship and manufacturing or performance conditions under normal use and service conditions for the first year following acceptance or for the optional extended annual maintenance services period.

Prior to adoption of ASC 606, our warranty accrual represents our best estimate of the amount necessary to settle future and existing claims during the warranty period as of the balance sheet date. We accrued for warranty costs based on estimated costs that may have been incurred including material costs, labor costs and higher customer electricity costs should the units not work for extended periods. To estimate the product warranty costs, we continuously monitored product returns for warranty failures and maintained the reserve for the related warranty expense based on various factors including historical warranty claims, field monitoring and results of lab testing.

With the adoption of ASC 606, we only recognize warranty costs for those contracts that are considered to be assurance-type warranties and consequently do not give rise to performance obligations or for those maintenance service contracts that were previously in the scope of ASC 605-20-25, Separately Priced Extended Warranty and Product Maintenance Contracts.

In addition, as part of our standard one-year warranty and managed services agreements obligations, we monitor the operations of the underlying systems and provide output and efficiency guaranties (collectively “product performance guaranties”). If the Energy Servers run at a lower efficiency or power output than we committed under our performance warranty or guaranty, we will reimburse the customer for this underperformance. Our performance obligation includes ensuring the Energy Server operates at least at the efficiency and/or power output levels set forth in the customer agreement. Our aggregate reimbursement obligation for a performance guaranty for each customer is capped based on the purchase price of the underlying Energy Server. Product performance guaranty payments are accounted for as a reduction in service revenue. We accrue for performance guaranties based on the estimated amounts reimbursable at each reporting period and recognize the costs as a reduction to revenue.

Shipping and Handling Costs

We generally record costs related to shipping and handling in cost of product revenue, cost of installation revenue and cost of service as they are incurred.

Sales and Utility Taxes

We recognize revenue on a net basis for taxes charged to our customers and collected on behalf of the taxing authorities.

Operating Expenses

Advertising and Promotion Costs - Expenses related to advertising and promotion of products are charged to sales and marketing expense as incurred. We did not incur any material advertising or promotion expenses during the years ended December 31, 2020, 2019 and 2018.

Research and Development - We conduct internally funded research and development activities to improve anticipated product performance and reduce product life-cycle costs. Research and development costs are expensed as incurred and include salaries and expenses related to employees conducting research and development.

Stock-Based Compensation - We account for stock options, restricted stock units ("RSUs") and performance-based stock units ("PSUs") awarded to employees and non-employee directors under the provisions of ASC 718, *Compensation-Stock Compensation*.

Stock-based compensation costs for options are measured using the Black-Scholes valuation model. The Black-Scholes valuation model uses as inputs the fair value of our common stock and assumptions we make for the volatility of our common stock, the expected term of the award, the risk-free interest rate for a period that approximates the expected term of the stock options and the expected dividend yield. In developing estimates used to calculate assumptions, we established the expected term for employee options as well as expected forfeiture rates based on the historical settlement experience and after giving consideration to vesting schedules. For options with a vesting condition tied to the attainment of service and market conditions, stock-based compensation costs are recognized using Monte Carlo simulations. Stock-based compensation costs are recorded net of estimated forfeitures such that expense is recorded only for those stock-based awards that are expected to vest. Previously recognized costs are reversed for the portion of awards forfeited prior to vesting as and when the forfeitures occurred. We typically record stock-based compensation costs for options under the straight-line attribution method over the requisite service period which is generally the vesting term, which is generally four years for options.

Stock-based compensation costs for RSUs and PSUs are measured based on the fair value of the underlying shares on the date of grant. We recognize the compensation cost for RSUs using a straight-line basis over the requisite service period of the RSUs, which is generally three to four years. We recognize the compensation cost for PSUs over the expected performance period using the graded vesting method as the achievement of the milestones become probable, which is generally one to three years.

We also use the Black-Scholes valuation model to estimate the fair value of stock purchase rights under the Bloom Energy Corporation 2018 Employee Stock Purchase Plan (the "2018 ESPP"). The fair value of the 2018 ESPP purchase rights is recognized as expense under the multiple options approach. Forfeitures are estimated at the time of grant and revised in subsequent periods, if necessary, if actual forfeitures differ from initial estimates.

Compensation costs for equity instruments granted to non-employees is measured on the date of performance at the fair value of the consideration received or the fair value of the equity instruments issued, whichever is more reliably measured. The fair value of the equity instruments is expensed over the term of the non-employee's service period.

Stock issued to grantees in our stock-based compensation is from authorized and previously unissued shares. Stock-based compensation expense is recorded in the consolidated statements of operations based on the employees’ respective function. Stock-based compensation costs directly associated with the product manufacturing operations process are capitalized into inventory and expensed when the capitalized asset is used in the normal course of the sales or services process.

We record deferred tax assets for awards that result in deductions on our income tax returns, unless we cannot realize the deduction (i.e., we are in a net operating loss position), based on the amount of compensation cost recognized and our statutory tax rate.

Refer to Note 10 - *Stock-Based Compensation and Employee Benefit Plans* for further discussion of our stock-based compensation arrangements.

Income Taxes

We account for income taxes using the liability method under ASC 740, *Income Taxes* ("ASC 740"). Under this method, deferred tax assets and liabilities are determined based on net operating loss carryforwards, research and development credit carryforwards and temporary differences resulting from the different treatment of items for tax and financial reporting purposes. Deferred items are measured using the enacted tax rates and laws that are expected to be in effect when the differences reverse. Additionally, we must assess the likelihood that deferred tax assets will be recovered as deductions from future taxable income. We have provided a full valuation allowance on our domestic deferred tax assets because we believe it is more likely than not that our deferred tax assets will not be realized.

We follow the accounting guidance in ASC 740, which requires a more-likely-than-not threshold for financial statement recognition and measurement of tax positions taken or expected to be taken in a tax return. We record a liability for the difference between the benefit recognized and measured pursuant to ASC 740-10 and the tax position taken or expected to be taken on our tax return. To the extent that the assessment of such tax positions change, the change in estimate is recorded in the period in which the determination is made. We established reserves for tax-related uncertainties based on estimates of whether, and the extent to which, additional taxes will be due. These reserves are established when we believe that certain positions might be challenged despite our belief that the tax return positions are fully supportable. The reserves are adjusted in light of changing facts and circumstances such as the outcome of a tax audit. The provision for income taxes includes the impact of reserve provisions and changes to reserves that are considered appropriate. We recognize interest and penalties related to unrecognized tax benefits in income tax expense.

Refer to Note 11 - *Income Taxes* for further discussion of our income tax expense.

Comprehensive Loss

Our comprehensive loss is comprised of net loss attributable to Class A and Class B common stock shareholders, unrealized gain (loss) on available-for-sale securities, change in the effective portion of our interest rate swap agreements and comprehensive (income) loss attributable to noncontrolling interest and redeemable noncontrolling interest.

Fair Value Measurement

ASC 820, *Fair Value Measurements and Disclosures* ("ASC 820"), defines fair value, establishes a framework for measuring fair value under U.S. GAAP and enhances disclosures about fair value measurements. Fair value is defined under ASC 820 as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principle or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. Valuation techniques used to measure fair value under ASC 820 must maximize the use of observable inputs and minimize the use of unobservable inputs. The guidance describes a fair value hierarchy based on three levels of inputs, of which the first two are considered observable and the last unobservable, that may be used to measure fair value:

Level 1	Quoted prices in active markets for identical assets or liabilities. Financial assets utilizing Level 1 inputs typically include money market securities and U.S. Treasury securities.
Level 2	Inputs other than Level 1 that are observable, either directly or indirectly, such as quoted prices for similar assets or liabilities, quoted prices in markets that are not active or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities.
Level 3	Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets or liabilities. Financial liabilities utilizing Level 3 inputs include natural gas fixed price forward contracts, embedded derivatives in contracts with customers and embedded derivatives in our convertible notes. Derivative liability valuations are performed based on a binomial lattice model and adjusted for illiquidity and/or non-transferability and such adjustments are generally based on available market evidence. Contract embedded derivatives valuations are performed using a Monte Carlo simulation model which considers various potential electricity price curves over the sales contracts terms.

Other Balance Sheet Components

Cash, Cash Equivalents and Restricted Cash - Cash equivalents consist of highly liquid short-term investments with maturities of 90 days or less at the date of purchase.

Restricted cash is held as collateral to provide financial assurance that we will fulfill obligations and commitments primarily related to our Portfolio Financings, Third Party PPA and managed services arrangements. Restricted cash also includes debt service reserves, maintenance service reserves and facility lease agreements. Restricted cash that is expected to be used within one year of the balance sheet date is classified as a current asset, whereas restricted cash expected to be used more than one year from the balance sheet date is classified as a non-current asset.

Derivative Financial Instruments - We enter into derivative natural gas fixed price forward contracts to manage our exposure to the fluctuating price of natural gas under certain of our power purchase agreements entered in connection with the PPA Entities (refer to Note 13 - *Portfolio Financings*). In addition, we enter into fixed forward interest rate swap arrangements to convert variable interest rates on debt to a fixed rate and on occasion have committed to certain utility grid price protection guarantees in sales agreements. During the year ended December 31, 2019, we also had derivative financial instruments embedded in our 6% Convertible Notes as a means by which to provide additional incentive to investors and to obtain a lower cost cash-source of funds.

Derivative transactions are governed by procedures covering areas such as authorization, counterparty exposure and hedging practices. Positions are monitored based on changes in the spot price in the commodity market and their impact on the market value of derivatives. Credit risk on derivatives arises from the potential for counterparties to default on their contractual obligations to us. We limit our credit risk by dealing with counterparties that are considered to be of high credit quality. We do not enter into derivative transactions for trading or speculative purposes.

We account for our derivative instruments as either an asset or a liability which are carried at fair value on the consolidated balance sheets. Changes in the fair value of the derivatives that are designated and qualify as cash flow hedges are recorded in accumulated other comprehensive income (loss) on the consolidated balance sheets. Changes in fair value of those derivatives that no longer qualify as cash flow hedges or are derivatives that do not qualify for hedge accounting are recorded through earnings in the consolidated statements of operations.

While we hedge certain of our natural gas purchase requirements under our PPAs, we do not classify these natural gas fixed price forward contracts as designated hedges for accounting purposes. Therefore, we record the change in the fair value of our natural gas fixed price forward contracts in cost of revenue on the consolidated statements of operations. The fair value of the natural gas fixed price forward contracts is recorded on the consolidated balance sheets as a component of accrued expenses and other current liabilities and as derivative liabilities. As these forward contracts are considered economic hedges, the changes in the fair value of these forward contracts are classified as operating activities within the statement of cash flows, which is consistent with the classification of the cash flows of the hedged item.

Our interest rate swap arrangements qualify as cash flow hedges for accounting purposes as they effectively convert variable rate obligations into fixed rate obligations. The effective change is recorded in accumulated other comprehensive income (loss) and will be recognized as interest expense on settlement. As of January 1, 2019, we adopted ASU 2017-12, *Derivatives and Hedging (Topic 815), Targeted Improvements to Accounting for Hedging Activities* ("ASU 2017-12"). Per ASU 2017-12, ineffectiveness is no longer required to be measured or disclosed. If a cash flow hedge is discontinued due to changes in the forecasted hedged transactions, hedge accounting is discontinued prospectively and any unrealized gain or loss on the related derivative is recorded in accumulated other comprehensive income (loss) and is reclassified into earnings in the same period during which the hedged forecasted transaction affects earnings. The fair value of the swap arrangement is recorded on the consolidated balance sheets as a component of accrued expenses and other current liabilities and as derivative liabilities. The changes in fair value of swap agreements are classified as operating activities within the statement of cash flows, which is consistent with the classification of the cash flows of the hedged item.

We issued convertible notes with conversion features. These conversion features were evaluated under ASC 815-40, *Derivatives and Hedging - Contracts in an Entity's Own Equity*, and were determined to be embedded derivatives that were bifurcated from the debt and were classified prior to the IPO as liabilities on the consolidated balance sheet. We recorded these derivative liabilities at fair value and adjusted the carrying value to their estimated fair value at each reporting date with the increases or decreases in the fair value recorded as a gain (loss) on revaluation of warrant liabilities and embedded derivatives in the consolidated statements of operations. Upon the IPO, the final valuation of the embedded derivative was calculated as of the date of the IPO and was reclassified from a derivative liability to additional paid-in capital.

Customer Financing Receivables - The contractual terms of our customer financing receivables are primarily contained within the PPA Entities' customer lease agreements. Leases entered into prior to our adoption of ASC 842 carried over their classification as either operating or sales-type leases in accordance with the relevant accounting guidelines. Customer financing receivables were generated by Energy Servers leased to PPA Entities' customers in leasing arrangements that qualified and continue to be accounted for as sales-type leases. Customer financing receivables for such arrangements represent the gross minimum lease payments to be received from customers and the system's estimated residual value, net of unearned income and allowance for estimated losses. Initial direct costs for such sales-type leases continue to be recognized as cost of revenue when the Energy Servers are placed in service.

We record a reserve for credit losses related to the collectability of customer financing receivables using the historical aging of the customer receivable balance. The collectability is determined based on past events, including historical experience, customer credit rating, as well as current market conditions. We monitor customer ratings and collectability on an on-going basis. Account balances will be charged off against the credit loss reserve, when needed, after all means of collection have been exhausted and the potential for recovery is considered remote.

Accounts Receivable - Accounts receivable primarily represents trade receivables from sales to customers recorded at amortized cost less allowance for credit losses. The allowance for credit losses reflects our best estimate about future losses over the contractual life of outstanding accounts receivable taking into consideration historical experience, specific allowances for known troubled accounts, other currently available information including customer financial condition, and both current and forecasted economic conditions.

Inventories - Inventories consist principally of raw materials, work-in-process and finished goods and are stated on a first-in, first-out basis at the lower of cost or net realizable value. We record inventory excess and obsolescence provisions for estimated obsolete or unsellable inventory, equal to the difference between the cost of inventory and estimated net realizable value based upon assumptions about market conditions and future demand for product generally expected to be utilized over the next 12 to 24 months, including product needed to fulfill our warranty obligations. If actual future demand for our products is less than currently forecasted, additional inventory provisions may be required. Once a provision is recorded, it is maintained until the product to which it relates to is sold or otherwise disposed.

Property, Plant and Equipment - Property, plant and equipment, including leasehold improvements, are stated at cost less accumulated depreciation. Energy Servers are depreciated to their residual values over their useful economic lives which reflect consideration of the terms of their related PPA and tariff agreements. These useful lives are reassessed when there is an expected change in the use of the Energy Servers. Leasehold improvements are depreciated over the shorter of the lease term or their estimated depreciable lives. Buildings are amortized over the shorter of the lease or property term or their estimated depreciable lives. Assets under construction are capitalized as costs are incurred and depreciation commences after the assets are put into service within their respective asset class.

Depreciation is calculated using the straight-line method over the estimated depreciable lives of the respective assets as follows:

	Depreciable Lives
Energy Servers	15-21 years
Computers, software and hardware	3-5 years
Machinery and equipment	5-10 years
Furniture and fixtures	3-5 years
Leasehold improvements	1-10 years
Buildings	*

* Lesser of 35 years or the term of the underlying land lease.

When assets are retired or disposed, the assets and related accumulated depreciation and amortization are removed from our consolidated financial statements and the resulting gain or loss is reflected in the consolidated statements of operations.

Impairment of Long-Lived Assets - Our long-lived assets include property, plant and equipment and Energy Servers capitalized in connection with our Managed Services Financing Program, Portfolio Financings and other similar arrangements. The carrying amounts of our long-lived assets are periodically reviewed for impairment whenever events or changes in circumstances indicate that the carrying value of these assets may not be recoverable or that the useful life is shorter than originally estimated.

Foreign Currency Transactions - The functional currency of our foreign subsidiaries is the U.S. dollar since they are considered financially and operationally integrated with their domestic parent. Foreign currency monetary assets and liabilities are remeasured into U.S. dollars at end-of-period exchange rates. Any currency transaction gains and losses are included as a component of other income (expense), net in our consolidated statements of operations and have not been significant for any period presented.

Allocation of Profits and Losses of Consolidated Entities to Noncontrolling Interests - We generally allocate profits and losses to noncontrolling interests under the hypothetical liquidation at book value ("HLBV") method. HLBV is a balance sheet-oriented approach for applying the equity method of accounting when there is a complex structure, such as the flip structure of the PPA Entities. Refer to Note 13 - *Portfolio Financings* for more information.

The determination of equity in earnings under the HLBV method requires management to determine how proceeds, upon a hypothetical liquidation of the entity at book value, would be allocated between our investors. The noncontrolling interest balance is presented as a component of permanent equity in the consolidated balance sheets.

Noncontrolling interests with redemption features, such as put options, that are not solely within our control are considered redeemable noncontrolling interests. Exercisability of put options are solely dependent upon the passage of time, and hence, such put options are considered to be probable of becoming exercisable. We elected to accrete changes in the redemption value over the period from the date it becomes probable that the instrument will become redeemable to the earliest redemption date of the instrument by using an interest method. The balance of redeemable noncontrolling interests on the balance sheets is reported at the greater of its carrying value or its maximum redemption value at each reporting date. The redeemable noncontrolling interests are classified as temporary equity and therefore are reported in the mezzanine section of the consolidated balance sheets as redeemable noncontrolling interests.

For income tax purposes, the Equity Investors of the PPA Entities receive a greater proportion of the share of losses and other income tax benefits. This includes the allocation of investment tax credits which are distributed to the Equity Investors through an Investment Company subsidiary of Bloom. Allocations are initially based on the terms specified in each respective partnership agreement until either a specific date or the Equity Investors' targeted rate of return specified in the partnership agreement is met (the "flip" of the flip structure) whereupon the allocations change. In some cases after the Equity Investors receive their contractual rate of return, we receive substantially all of the remaining value attributable to the long-term recurring customer payments and the other incentives.

Recent Accounting Pronouncements

At the time of our initial public offering, as an emerging growth company ("EGC"), we elected to use the extended transition period provided by the Jumpstart Our Business Startups Act for the implementation of new or revised accounting standards, and as a result of this election, we did not have to comply with the public company effective dates for new accounting standards until we ceased to be classified as an EGC. As a result of the market value of our publicly held common stock held by non-affiliates exceeding $700 million, measured at the end of our second fiscal quarter, we lost our EGC status effective as of December 31, 2020. This accelerated the adoption of various accounting standards as detailed below under *Accounting Guidance Implemented in 2020.* These accounting standards were therefore, adopted as of January 1, 2020.

As detailed below under *Accounting Guidance Not Yet Adopted*, we will adopt future accounting standards based on the public company effective dates.

Other than the adoption of the accounting guidance mentioned below, there have been no other significant changes in our reported financial position or results of operations and cash flows resulting from the adoption of new accounting pronouncements.

Accounting Guidance Implemented in 2020

Our adoption of the following guidance as of January 1, 2020 did not have a material impact on our consolidated financial statements and related disclosures:

- ASU 2019-12, Simplifying the Accounting for Income Taxes (Topic 740)
- ASU 2018-13, Fair Value Measurement Disclosure Framework - Changes to the Disclosure Requirements for Fair Value Measurement
- ASU 2018-07, Compensation - Stock Compensation: Improvements to Nonemployee Share-Based Payment Accounting
- ASU 2016-13, Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments

Leases - In February 2016, the FASB issued ASC 842, which supersedes all existing lease guidance. To increase transparency and comparability among organizations, this guidance requires that an entity that lease assets recognize right-of-use (“ROU”) assets representing its right to use the underlying asset for the lease term and lease liabilities related to the rights and obligations created by those leases on the balance sheet regardless of whether they are classified as finance or operating leases, with classification affecting the pattern and presentation of expenses and cash flows on the consolidated financial statements. In addition, new disclosures are required to meet the objective of enabling users of the consolidated financial statements to better understand the amount, timing, and uncertainty of cash flows arising from leases.

Prior to December 31, 2020, as an EGC, we elected to use the extended transition period provided by the Jumpstart Our Business Startups Act for the implementation of new or revised accounting standards, and as a result of this election, we did not have to comply with the public company effective date for ASC 842 until we ceased to be classified as an EGC. Effective on December 31, 2020, we lost our EGC status which accelerated the adoption of ASC 842. As a result, we adjusted our previously reported consolidated financial statements effective January 1, 2020 in this Form 10-K for the year ended December 31, 2020.

We adopted ASC 842 on January 1, 2020 on a modified retrospective basis under which we recognized and measured leases existing at, or entered into after, the beginning of the period of adoption. We elected the optional transition approach of not adjusting our comparative period consolidated financial statements for the impacts of adoption. Upon adoption of ASC 842, we recorded right-of-use assets of $28.1 million (after deducting $9.2 million relating to a tenant improvement allowance) and corresponding lease liabilities of $39.8 million related to our operating leases as a lessee for facilities, office buildings, and vehicles.

The comparative consolidated balance sheet as of December 31, 2019 has not been restated to reflect the adoption of ASC 842. In addition, the amounts presented as deferred lease obligations on our consolidated balance sheet as of December 31, 2019 are now included in the calculation of the operating lease ROU assets.

The transition guidance associated with ASC 842 also permitted certain practical expedients. We elected the practical expedient, which allowed us to carryforward certain aspects of our historical lease accounting under ASC 840 for leases that commenced before the effective date, including not to reassess (i) whether any expired or existing contracts are or contain leases, (ii) lease classification for any expired or existing leases, and (iii) initial direct costs for any existing leases. We also elected the practical expedient to not separate non-lease and lease components and instead account for them as a single lease component for all classes of underlying assets. Lastly, for all classes of underlying assets, we elected to adopt an accounting policy for which we will not record on our consolidated balance sheets leases whose terms are 12 months or less. Instead, these lease payments are recognized in profit or loss on a straight-line basis over the lease term.

Facilities, Office Buildings, and Vehicles

The lease ROU assets and related lease liabilities are classified as either operating or financing. Lease liabilities are measured at the lease commencement date as the present value of future minimum lease payments. Lease right-of-use assets are measured as the lease liability plus initial direct costs and prepaid lease payments less lease incentives. In measuring the present value of the future minimum lease payments, the discount rate for the lease is the rate implicit in the lease unless that rate cannot be readily determined. In that case, the lessee is required to use its incremental borrowing rate. In computing our lease liabilities, we use the incremental borrowing rate based on the information available on the commencement date using an estimate of company-specific rate in the U.S. on a collateralized basis and consistent with the lease term for each lease. The lease term is the non-cancelable period of the lease and includes options to extend or terminate the lease when it is reasonably certain that an option will be exercised.

The cumulative effect of applying ASC 842 on our consolidated balance sheets as of January 1, 2020 was as follows (in thousands):

	December 31, 2019 [1]	Adjustments Due to the Adoption of ASC 842	January 1, 2020
Assets:			
Operating lease right-of-use assets	$ —	$ 28,121	$ 28,121
Total assets	1,322,591	28,121	1,350,712
Liabilities, Redeemable Noncontrolling Interest, Stockholders’ Deficit and Noncontrolling Interest:			
Operating lease liabilities - current	—	5,535	5,535
Accrued expenses and other current liabilities	70,284	(1,314) [2]	68,970
Total current liabilities	573,964	4,221	578,185
Operating lease liabilities, non-current	—	34,240	34,240
Other long-term liabilities	28,013	(10,340) [2]	17,673
Total liabilities	1,490,451	28,121	1,518,572
Total liabilities, redeemable noncontrolling interest, stockholders' deficit and noncontrolling interest	1,322,591	28,121	1,350,712

(1) As reported in our 2019 Annual Report on Form 10-K.
(2) Adjustment relates to deferred rent balances as of December 31, 2019.

ROU assets for operating and finance leases are periodically reviewed for impairment losses. We use the long-lived assets impairment guidance in ASC Subtopic 360-10, *Property, Plant, and Equipment – Overall*, to determine whether an ROU asset is impaired, and if so, the amount of the impairment loss to recognize. No impairment losses have been recognized to date.

We monitor for events or changes in circumstances that require a reassessment of one of its leases. When a reassessment results in the remeasurement of a lease liability, a corresponding adjustment is made to the carrying amount of the corresponding ROU asset.

Managed Services and Portfolio Financings Through PPA Entities

Transactions with Financiers - Under the transition guidance in ASC 842, companies are required to reassess sale-leaseback transactions previously accounted for as failed sale-leaseback arrangements. Under ASC 840, we concluded that Managed Services arrangements should be accounted for as a financing arrangement given that these contracts were considered failed sale-leasebacks because the leaseback was classified under ASC 840 as a capital lease. As part of our adoption of ASC 842, we reassessed our Managed Services arrangements with financiers as of the transition date to determine whether these transactions would now qualify as successful sale-leaseback arrangements.

Our Managed Services arrangements with financiers contain repurchase options whereby we may under certain circumstances repurchase the asset from the financier, as buyer-lessor, we determined that because there will be no alternative assets that will be available for the financier to purchase that are substantially the same as the asset initially transferred, the existence of the repurchase option precludes us from concluding that control of the Energy Server system has transferred to the financier at the onset of the sale-leaseback transaction. Accordingly, we determined that the sale-leaseback transactions will continue to be accounted for as failed sale-leaseback transactions and the consideration received under such arrangements will continue to be accounted for as a financing arrangement, consistent with the accounting treatment in the prior year.

Transactions with Customers - As described above under our Revenue Recognition accounting policy, certain of our customers enter into PPAs with a PPA Entity or Managed Services agreements to finance their lease of Bloom Energy Servers. Prior to the adoption of ASC 842, such arrangements with customers that qualified as leases were classified as either sales-type leases or operating leases.

As discussed above, we elected the package of practical expedients to be applied to all leases in the transition from ASC 840 to ASC 842. Accordingly, we have not re-evaluated whether our pre-existing customer PPAs or Managed Services arrangements contain a lease. For all pre-existing customer PPAs and Managed Services arrangements, we have carried over the accounting classifications for those transactions under ASC 840, and continue to account for such transactions as either sales-type leases or operating leases under ASC 842.

As part of our adoption of ASC 842, we assessed whether customer PPAs or Managed Services arrangements entered into on or after January 1, 2020 are within the scope of ASC 842 and, if so, their appropriate accounting treatment. ASC 842 states that a contract contains a lease if the contracts convey the right to control the use of an identified asset for a period of time in exchange for consideration. Central to this analysis are two factors: (i) whether there is an identified asset; and (ii) whether the counterparty has the right to control the use of the identified asset. We determined that while there is an identified asset (i.e., the Energy Servers installed at the end-customers' facilities), the customer does not have the right to control the use of the Energy Servers because they do not have decision-making rights over how and for what purpose the Energy Servers are utilized throughout the term of the arrangement. Accordingly, the customer PPAs and Managed Services arrangements do not contain a lease, and therefore are not within the scope of ASC 842, and instead are accounted for under ASC 606.

See Note 17 - *Leases*, for additional information and disclosures on the impact of the adoption of ASC 842.

Accounting Guidance Not Yet Adopted

As a result of the loss of our EGC status with effect from December 31, 2020, we have revised our planned adoption dates from the nonpublic company effective dates to the pubic company effective dates for the accounting guidance below.

Cessation of LIBOR - In March 2020, the FASB issued ASU 2020-04, *Reference Rate Reform (Topic 848) Facilitation of the Effects of Reference Rate Reform on Financial Reporting* ("ASU 2020-04"), which provides optional expedients for a limited period of time for accounting for contracts, hedging relationships, and other transactions affected by the London Interbank Offered Rate ("LIBOR") or other reference rate expected to be discontinued. An entity may elect to apply the amendments in ASU 2020-04 for contract modifications as of any date from the beginning of an interim period that includes or is subsequent to March 12, 2020, or prospectively from a date within an interim period that includes or is subsequent to March 12, 2020, up to the date that the consolidated financial statements are available to be issued. An entity may elect to apply ASU 2020-04 to eligible hedging relationships existing as of the beginning of the interim period that includes March 12, 2020 and to new eligible hedging instruments entered into after the beginning of the interim period that includes March 12, 2020. We are currently evaluating the impact of the adoption of ASU 2020-04 on our consolidated financial statements.

Debt with Conversion Options - In August 2020, the FASB issued 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)* ("ASU 2020-06"), which simplifies the accounting for convertible instruments. ASU 2020-06 removes certain accounting models that separate the embedded conversion features from the host contract for convertible instruments, requiring bifurcation only if the convertible debt feature qualifies as a derivative under ASC 815 or for convertible debt issued at a substantial premium. ASU 2020-06 removes certain settlement conditions required for equity contracts to qualify for the derivative scope exception, permitting more contracts to qualify for the exception. In addition, ASU 2020-06 eliminates the treasury stock method to calculate diluted earnings per share for convertible instruments and requires the use of the if-converted method. ASU 2020-06 is effective for annual reporting periods beginning after December 15, 2021, including interim reporting periods within those annual periods, with early adoption permitted no earlier than the fiscal year beginning after December 15, 2020. We are currently evaluating the impact of the adoption of ASU 2020-06 on our consolidated financial statements.

3. Revenue Recognition

Deferred Revenue and Customer Deposits

Deferred revenue and customer deposits as of December 31, 2020 and 2019 consists of the following (in thousands):

	December 31,	
	2020	**2019**
Deferred revenue	$ 135,578	$ 175,619
Customer deposits	66,171	39,101
Deferred revenue and customer deposits	$ 201,749	$ 214,720

Deferred revenue activity during the years ended December 31, 2020 and 2019 consists of the following (in thousands):

	Years Ended December 31,	
	2020	**2019**
Beginning balance	$ 175,619	$ 149,612
Additions	652,960	709,843
Revenue recognized	(693,001)	(683,836)
Ending balance	$ 135,578	$ 175,619

Deferred revenue is equivalent to the total transaction price allocated to the performance obligations that are unsatisfied, or partially unsatisfied, as of the end of the period. The significant component of deferred revenue at the end of the period consists of performance obligations relating to the provision of maintenance services under current contracts and future renewal periods. These obligations provide customers with material rights over a period that we estimate will be largely commensurate with the period of their expected use of the associated Energy Server. As a result, we expect to recognize these amounts as revenue over a period of up to 21 years, predominantly on a cost-to-cost basis that reflects the cost of providing these services. Deferred revenue also includes performance obligations relating to product acceptance and installation. A significant amount of this deferred revenue is reflected as additions and revenue recognized in the same period and we expect to recognize all amounts within a year. During the year ended December 31, 2020, we recognized $14.2 million of previously deferred revenue that was not associated with acceptances or service in the year as a result of a modification of a contract with a customer.

We do not disclose the value of the unsatisfied performance obligations for (i) contracts with an original expected length of one year or less and (ii) contracts for which we recognize revenue at the amount to which we have the right to invoice for services performed.

We disaggregate revenue from contracts with customers into four revenue categories: (i) product, (ii) installation, (iii) services, and (iv) electricity (in thousands):

	Years Ended December 31,		
	2020	2019	2018
	Under ASC 606	With Adoption of ASC 606	Under ASC 605
Revenue from contracts with customers:			
Product revenue	$ 518,633	$ 557,336	$ 400,638
Installation revenue	101,887	60,826	68,195
Services revenue	109,633	95,786	83,267
Electricity revenue	—	10,840	23,023
Total revenue from contract with customers	730,153	724,788	575,123
Revenue from contracts accounted for as leases:			
Electricity revenue	64,094	60,389	57,525
Total revenue	$ 794,247	$ 785,177	$ 632,648

4. Financial Instruments

Cash, Cash Equivalents and Restricted Cash

The carrying values of cash, cash equivalents and restricted cash approximate fair values and are as follows (in thousands):

	December 31,	
	2020	2019
As Held:		
Cash	$ 180,808	$ 100,773
Money market funds	235,902	276,615
	$ 416,710	$ 377,388
As Reported:		
Cash and cash equivalents	$ 246,947	$ 202,823
Restricted cash	169,763	174,565
	$ 416,710	$ 377,388

Restricted cash consisted of the following (in thousands):

	December 31,	
	2020	2019
Current:		
Restricted cash	$ 26,706	$ 28,494
Restricted cash related to PPA Entities[1]	25,764	2,310
Restricted cash, current	52,470	30,804
Non-current:		
Restricted cash	286	10
Restricted cash related to PPA Entities[1]	117,007	143,751
Restricted cash, non-current	117,293	143,761
	$ 169,763	$ 174,565

[1] We have VIEs that represent a portion of the consolidated balances recorded within the "restricted cash," and other financial statement line items in the consolidated balance sheets (see Note 13 - *Portfolio Financings*). In addition, the restricted cash held in the PPA II and PPA IIIb entities as of December 31, 2020, include $20.3 million and $0.7 million of current restricted cash, and $88.4 million and $13.3 million of non-current restricted cash, respectively, and these entities are not considered VIEs. The restricted cash held in the PPA II and PPA IIIb entities as of December 31, 2019, included $108.7 million and $20.0 million of non-current restricted cash, respectively.

5. Fair Value

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis

The tables below set forth, by level, our financial assets that are accounted for at fair value for the respective periods. The table does not include assets and liabilities that are measured at historical cost or any basis other than fair value (in thousands):

	Fair Value Measured at Reporting Date Using			
December 31, 2020	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 235,902	$ —	$ —	$ 235,902
	$ 235,902	$ —	$ —	$ 235,902
Liabilities				
Derivatives:				
Natural gas fixed price forward contracts	$ —	$ —	$ 2,574	$ 2,574
Embedded EPP derivatives	—	—	5,541	5,541
Interest rate swap agreements	—	15,989	—	15,989
	$ —	$ 15,989	$ 8,115	$ 24,104

	Fair Value Measured at Reporting Date Using			
December 31, 2019	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets				
Cash equivalents:				
Money market funds	$ 276,615	$ —	$ —	$ 276,615
Interest rate swap agreements	—	3	—	3
	$ 276,615	$ 3	$ —	$ 276,618
Liabilities				
Accrued expenses and other current liabilities	$ 996	$ —	$ —	$ 996
Derivatives:				
Natural gas fixed price forward contracts	—	—	6,968	6,968
Embedded EPP derivatives	—	—	6,176	6,176
Interest rate swap agreements	—	9,241	—	9,241
	$ 996	$ 9,241	$ 13,144	$ 23,381

Money Market Funds - Money market funds are valued using quoted market prices for identical securities and are therefore classified as Level 1 financial assets.

Interest Rate Swap Agreements - Interest rate swap agreements are valued using quoted prices for similar contracts and are therefore classified as Level 2 financial assets. Interest rate swaps are designed as hedging instruments and are recognized at fair value on our consolidated balance sheets. As of December 31, 2020, we expect $1.9 million of the loss on the interest rate swaps accumulated in other comprehensive income (loss) to be reclassified into earnings in the next 12 months.

Natural Gas Fixed Price Forward Contracts - Natural gas fixed price forward contracts are valued using a combination of factors including the counterparty's credit rating and estimates of future natural gas prices and therefore, as no observable inputs to support market activity are available, are classified as Level 3 liabilities.

The following table provides the number and fair value of our natural gas fixed price forward contracts (in thousands):

	December 31, 2020		December 31, 2019	
	Number of Contracts (MMBTU)[2]	Fair Value	Number of Contracts (MMBTU)[2]	Fair Value
Liabilities[1]:				
Natural gas fixed price forward contracts (not under hedging relationships)	830	$ 2,574	1,991	$ 6,968

[1] Recorded in current liabilities and derivative liabilities in the consolidated balance sheets.

[2] One MMBTU is a traditional unit of energy used to describe the heat value (energy content) of fuels.

For the years ended December 31, 2020 and 2019, we recorded the fair value of our natural gas fixed price forward contracts and recognized losses of $0.1 million and $0.8 million, respectively. We recorded the fair value of our natural gas fixed price forward contracts and recognized gains of $4.5 million and $3.6 million for the years ended December 31, 2020 and 2019, respectively, on the settlement of these contracts in cost of revenue on our consolidated statements of operations.

Embedded Escalation Protection Plan Derivative Liability in Sales Contracts - We estimated the fair value of the embedded Escalation Protection Plan ("EPP") derivatives in certain sales contracts using a Monte Carlo simulation model, which considers various potential electricity price curves over the sales contracts' terms. We use historical grid prices and available forecasts of future electricity prices to estimate future electricity prices. We have classified these derivatives as a Level 3 financial liability.

For the years ended December 31, 2020 and 2019, we recorded the fair value of the embedded EPP derivatives and recognized an unrealized gain of $0.6 million and an unrealized loss of $2.2 million, respectively, in gain (loss) on revaluation of embedded derivatives on our consolidated statements of operations.

There were no transfers between fair value measurement classifications during the years ended December 31, 2020 and 2019.

The changes in the Level 3 financial liabilities during the year ended December 31, 2020 were as follows (in thousands):

	Natural Gas Fixed Price Forward Contracts	Embedded EPP Derivative Liability	Total
Liabilities at December 31, 2018	$ 9,729	$ 4,015	$ 13,744
Settlement of natural gas fixed price forward contracts	(3,605)	—	(3,605)
Changes in fair value	844	2,161	3,005
Liabilities at December 31, 2019	6,968	6,176	13,144
Settlement of natural gas fixed price forward contracts	(4,503)	—	(4,503)
Changes in fair value	109	(635)	(526)
Liabilities at December 31, 2020	$ 2,574	$ 5,541	$ 8,115

The following table presents the unobservable inputs related to our Level 3 liabilities:

	As of December 31, 2020					
Commodity Contracts	Derivative Liabilities	Valuation Technique	Unobservable Input	Units	Range	Average
	(in thousands)				($ per Units)	
Natural Gas	$ 2,574	Discounted Cash Flow	Forward basis price	MMBTU	$2.82 - $5.03	$ 3.67

The unobservable inputs used in the fair value measurement of the natural gas commodity contracts consist of inputs that are less observable due in part to lack of available broker quotes, supported by little, if any, market activity at the measurement date or are based on internally developed models. Certain basis prices (i.e., the difference in pricing between two locations) included in the valuation of natural gas contracts were deemed unobservable.

To estimate the liabilities related to the EPP contracts an option pricing method was implemented through a Monte Carlo simulation. The unobservable inputs were simulated based on the available values for avoided cost and cost of electricity as calculated for December 31, 2020, using an expected growth rate of 7% over the contracts' life and volatility of 20%. The estimated growth rate and volatility were estimated based on the historical tariff changes for the period 2008 to 2020. Avoided cost is the transmission and distribution cost expressed in dollars per kilowatt hours avoided in the given year of the contract, calculated using the billing rates of the effective utility tariff applied during the year to the host account for which usage is offset by the generator. If the billing rates within the utility tariff change during the measurement period, the average of the amount of charge for each rate shall be weighted by the number of effective months for each amount.

The inputs listed above would have had a direct impact on the fair values of the above derivatives if they were adjusted. Generally, an increase in natural gas prices and a decrease in electric grid prices would each result in an increase in the estimated fair value of our derivative liabilities.

Financial Assets and Liabilities Not Measured at Fair Value on a Recurring Basis

Customer Receivables and Debt Instruments - The fair value for customer financing receivables is based on a discounted cash flow model, whereby the fair value approximates the present value of the receivables (Level 3). The senior secured notes, term loans and convertible promissory notes are based on rates currently offered for instruments with similar maturities and terms (Level 3). The following table presents the estimated fair values and carrying values of customer receivables and debt instruments (in thousands):

	December 31, 2020		December 31, 2019	
	Net Carrying Value	Fair Value	Net Carrying Value	Fair Value
Customer receivables				
Customer financing receivables	$ 50,746	$ 42,679	$ 55,855	$ 44,002
Debt instruments				
Recourse:				
LIBOR + 4% Term Loan due November 2020	—	—	1,536	1,590
5% Convertible Promissory Note due 2020	—	—	36,482	32,070
10% Convertible Promissory Notes due December 2021	—	—	273,410	302,047
10% Senior Secured notes due July 2024	—	—	89,962	97,512
10.25% Senior Secured Notes due March 2027	68,614	71,831	—	—
2.5% Green Convertible Senior Notes due August 2025	99,394	426,229	—	—
Non-recourse:				
7.5% Term Loan due September 2028	31,746	37,658	34,969	41,108
6.07% Senior Secured Notes due March 2030	77,007	89,654	80,016	87,618
LIBOR + 2.5% Term Loan due December 2021	114,138	116,113	120,437	120,510

6. Balance Sheet Components

Inventories

The components of inventory consist of the following (in thousands):

	December 31, 2020	December 31, 2019
Raw materials	$ 79,090	$ 67,829
Work-in-progress	29,063	21,207
Finished goods	33,906	20,570
	$ 142,059	$ 109,606

The inventory reserves were $14.0 million and $14.6 million as of December 31, 2020 and 2019, respectively.

Prepaid Expenses and Other Current Assets

Prepaid expenses and other current assets consist of the following (in thousands):

	December 31, 2020	December 31, 2019
Government incentives receivable	$ 479	$ 893
Prepaid hardware and software maintenance	5,227	3,763
Receivables from employees	5,160	6,130
Other prepaid expenses and other current assets	19,852	17,282
	$ 30,718	$ 28,068

Property, Plant and Equipment, Net

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

	December 31, 2020	December 31, 2019
Energy Servers	$ 669,422	$ 650,600
Computers, software and hardware	20,432	20,275
Machinery and equipment	106,644	101,650
Furniture and fixtures	8,455	8,339
Leasehold improvements	37,497	35,694
Building	46,730	40,512
Construction in progress	21,118	12,611
	910,298	869,681
Less: accumulated depreciation	(309,670)	(262,622)
	$ 600,628	$ 607,059

Depreciation expense related to property, plant and equipment, net, was $52.2 million, $78.6 million, and $53.1 million for the years ended December 31, 2020, 2019 and 2018, respectively. Depreciation expense incurred during the year ended December 31, 2019, included a decommissioning in PPA II, including the replacement during 2019 of 30 megawatts of installed Energy Servers with 27.5 megawatts of new systems sold, resulting in product cost of goods sold due to $52.5 million for the write-off of Energy Servers and $78.4 million for the cost of new systems sold, and electricity cost of revenue of

$22.6 million of accelerated depreciation charged. Additionally, during the year ended December 31, 2019, there was a decommissioning in PPA IIIb, including the replacement during 2019 of five megawatts of installed Energy Servers, resulting in product cost of goods sold of $18.0 million for the write-off of Energy Servers, and electricity cost of revenue of $1.7 million of accelerated depreciation charged in fourth quarter of 2019 related to the revised expected lives of installed systems, which we recognized in our consolidated statement of operations. There was no similar decommissioning activity or similar charges during the year ended December 31, 2020.

Property, plant and equipment, net, under operating leases by the PPA Entities was $368.0 million and $371.4 million as of December 31, 2020 and 2019, respectively. The accumulated depreciation for these assets was $115.9 million and $95.5 million as of December 31, 2020 and 2019, respectively. Depreciation expense related to our property, plant and equipment under operating leases by the PPA Entities was $23.8 million, $27.1 million and $25.5 million for the years ended December 31, 2020, 2019 and 2018, respectively.

Depreciation expense is included in cost of product, installation, service and electricity revenue as well as research and development, sales and marketing and general and administration expenses in our consolidated statements of operations.

Other Long-Term Assets

Other long-term assets consist of the following (in thousands):

	December 31,	
	2020	2019
Prepaid and other long-term assets	$ 24,116	$ 29,153
Deferred commissions	6,732	5,007
Equity-method investments	1,954	5,733
Long-term deposits	1,709	1,759
	$ 34,511	$ 41,652

Accrued Warranty

Accrued warranty liabilities consist of the following (in thousands):

	December 31,	
	2020	2019
Product warranty	$ 1,549	$ 2,345
Product performance	8,605	7,536
Maintenance services contracts	109	453
	$ 10,263	$ 10,334

Changes in the product warranty and product performance liabilities were as follows (in thousands):

Balances at December 31, 2018	$ 9,668
Cumulative effect upon adoption of ASC 606	1,032
Accrued warranty, net	1,849
Warranty expenditures during period	(2,668)
Balances at December 31, 2019	9,881
Accrued warranty, net	5,944
Warranty expenditures during the year	(5,671)
Balances at December 31, 2020	$ 10,154

Accrued Expenses and Other Current Liabilities

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

	December 31,	
	2020	2019
Compensation and benefits	$ 28,343	$ 17,173
Current portion of derivative liabilities	19,116	4,834
Sales-related liabilities	14,479	416
Accrued installation	16,468	10,348
Sales tax liabilities	2,732	3,849
Interest payable	2,224	3,875
Other	28,642	29,789
	$ 112,004	$ 70,284

Other Long-Term Liabilities

Other long-term liabilities consist of the following (in thousands):

	December 31,	
	2020	2019
Delaware grant	$ 9,212	$ 10,469
Other	3,067	17,544
	$ 12,279	$ 28,013

In March 2012, we entered into an agreement with the Delaware Economic Development Authority to provide a grant of $16.5 million to us as an incentive to establish a new manufacturing facility in Delaware and to provide employment for full- time workers at the facility over a certain period of time. We have received $12.0 million of the grant, which is contingent upon us meeting certain milestones related to the construction of the manufacturing facility and the employment of full-time workers at the facility through September 30, 2023. We repaid $1.5 million of the grant in 2017, and no additional amounts have been repaid since then. As of December 31, 2020, we have recorded $1.3 million in current liabilities and $9.2 million in other long-term liabilities for potential future repayments of this grant. See Note 14 - *Commitments and Contingencies* for a full description of the grant.

7. Outstanding Loans and Security Agreements

The following is a summary of our debt as of December 31, 2020 (in thousands):

	Unpaid Principal Balance	Net Carrying Value			Unused Borrowing Capacity	Interest Rate	Maturity Dates	Entity	Recourse
		Current	Long-Term	Total					
10.25% Senior Secured Notes due March 2027	$ 70,000	$ —	$ 68,614	$ 68,614	$ —	10.25%	March 2027	Company	Yes
2.5% Green Convertible Senior Notes due August 2025	230,000	—	99,394	99,394		2.5%	August 2025	Company	Yes
Total recourse debt	300,000	—	168,008	168,008	—				
7.5% Term Loan due September 2028	34,456	2,826	28,920	31,746	—	7.5%	September 2028	PPA IIIa	No
6.07% Senior Secured Notes due March 2030	77,837	3,882	73,125	77,007	—	6.1%	March 2030	PPA IV	No
LIBOR + 2.5% Term Loan due December 2021	114,761	114,138	—	114,138	—	LIBOR plus margin	December 2021	PPA V	No
Letters of Credit due December 2021	—	—	—	—	968	2.25%	December 2021	PPA V	No
Total non-recourse debt	227,054	120,846	102,045	222,891	968				
Total debt	$ 527,054	$ 120,846	$ 270,053	$ 390,899	$ 968				

The following is a summary of our debt as of December 31, 2019 (in thousands):

	Unpaid Principal Balance	Net Carrying Value			Unused Borrowing Capacity	Interest Rate	Maturity Dates	Entity	Recourse
		Current	Long-Term	Total					
LIBOR + 4% Loan due November 2020	$ 1,571	$ 1,536	$ —	$ 1,536	$ —	LIBOR plus margin	November 2020	Company	Yes
5% Convertible Promissory Note due December 2020	33,104	36,482	—	36,482	—	5.0%	December 2020	Company	Yes
6% Convertible Promissory Notes due December 2020	289,299	273,410	—	273,410	—	6.0%	December 2020	Company	Yes
10% Notes due July 2024	93,000	14,000	75,962	89,962	—	10.0%	July 2024	Company	Yes
Total recourse debt	416,974	325,428	75,962	401,390	—				
7.5% Term Loan due September 2028	38,337	3,882	31,087	34,969	—	7.5%	September 2028	PPA IIIa	No
6.07% Senior Secured Notes due March 2030	80,988	3,151	76,865	80,016	—	6.1%	March 2030	PPA IV	No
LIBOR + 2.5% Term Loan due December 2021	121,784	5,122	115,315	120,437	—	LIBOR plus margin	December 2021	PPA V	No
Letters of Credit due December 2021	—	—	—	—	1,220	2.25%	December 2021	PPA V	No
Total non-recourse debt	241,109	12,155	223,267	235,422	1,220				
Total debt	$ 658,083	$ 337,583	$ 299,229	$ 636,812	$ 1,220				

Recourse debt refers to debt that we have an obligation to pay. Non-recourse debt refers to debt that is recourse to only our subsidiaries. The differences between the unpaid principal balances and the net carrying values apply to debt discounts and deferred financing costs. We and all of our subsidiaries were in compliance with all financial covenants as of December 31, 2020 and 2019.

Recourse Debt Facilities

LIBOR + 4% Loan due November 2020 - The weighted average interest rate as of December 31, 2019 was 6.3%. As of December 31, 2020 and 2019, the unpaid principal balance of debt outstanding was zero and $1.6 million, respectively. This Term Loan was extinguished in November 2020.

5% Convertible Promissory Note due 2020 - On March 31, 2020, we entered into an Amended and Restated Subordinated Secured Convertible Note Modification Agreement (the “Constellation Note Modification Agreement”) with Constellation NewEnergy, Inc. (“Constellation”), pursuant to which Constellation agreed to extend the maturity date to December 31, 2021, increase the interest rate from 5% to 10% and reduce the strike price on the conversion feature from $38.64 per share to $8.00 per share (referred to as the "10% Constellation Note" prior to the extinguishment and the "New 10% Constellation Note" after the extinguishment).

As a result, the 10% Constellation Note, which consisted of $33.1 million in principal and $3.8 million in accrued and unpaid interest was extinguished and the New 10% Constellation Note was recognized at its fair market value, which equaled $40.7 million. The difference between the fair market value of the New 10% Constellation Note and the carrying value of the 10% Constellation Note prior to the modification of $3.8 million was recognized as a loss on extinguishment of debt in the consolidated statement of operations.

On June 18, 2020, Constellation exchanged their entire New 10% Constellation Note at the conversion price of $8.00 per share into 4.7 million shares of Class A common stock. At the time of this exchange the unamortized premium of $3.4 million was recognized as an adjustment to additional paid-in capital.

6% Convertible Promissory Notes due December 2020 - On March 31, 2020, we entered into an Amendment Support Agreement with the noteholders of our outstanding 6% Convertible Notes due December 2020 ("6% Convertible Notes"), pursuant to which such Noteholders agreed to extend the maturity date of the outstanding 6% Convertible Notes to December 1, 2021 and increase the interest rate from 6% to 10%. Additionally, the debt is convertible at the option of the Noteholders into common stock at any time through the maturity date. In addition, we amended the 6% Convertible Notes by reducing the strike price on the conversion feature from $11.25 to $8.00 per share ("10% Convertible Notes"). In conjunction with entering into the Amendment Support Agreement, on March 31, 2020, we also entered into the 10% Convertible Note Purchase Agreement and issued an additional $30.0 million aggregate principal amount of 10% Convertible Notes to certain noteholders. The 10% Convertible Notes and the $30.0 million new 10% Convertible Notes were all reflected in the Restated Indenture. On May 1, 2020, we repaid $70.0 million of the 10% Convertible Notes and accrued and unpaid interest and recognized an adjustment to the unamortized debt premium of $4.3 million.

As a result, during the year ended December 31, 2020, we recognized a $10.3 million loss on extinguishment of debt in the consolidated statement of operations, which was calculated as the difference between the reacquisition price of the 6% Convertible Notes and the carrying value of the 6% Convertible Notes. The total carrying value of the 6% Convertible Notes equaled $279.0 million, which consisted of $289.3 million in principal and $1.4 million in accrued and unpaid interest, reduced by $10.7 million in unamortized discount and $1.0 million in unamortized debt issuance costs. The total reacquisition price of the 6% Convertible Notes equaled $289.3 million, which consisted of the $340.7 million fair value of the 10% Convertible Notes, $1.4 million in accrued and unpaid interest, and $1.2 million of fees paid to noteholders as part of the amendment, reduced by $24.0 million, being the fair value at March 31, 2020 of the embedded derivative relating to the equity classified conversion feature. The fair value of the embedded feature was reclassified from additional paid-in capital at the time of the debt extinguishment.

During the year ended December 31, 2020, we called a total of $153.1 million of the 10% Convertible Notes and the noteholders, at their option, converted their notes into 19.1 million shares of our Class B common stock, which were subsequently exchanged for Class A common stock.The $96.2 million principal balance of 10% Convertible Notes due to the Canada Pension Plan Investment Board was converted to 12.0 million shares of common stock in October 2020, and the unamortized premium of $3.2 million was recorded in additional paid in capital.

10% Notes due July 2024 - The outstanding unpaid principal balance of $79.0 million on the 10% Senior Secured Notes due July 2024 was called and retired at 104% during the year ended December 31, 2020. The 4% premium of $3.2 million and unpaid accrued interest of $2.1 million were included in the final payment to the noteholders. The unrecognized debt issuance costs of $2.0 million were expensed.

10.25% Senior Secured Notes due March 2027 - On May 1, 2020, we issued $70.0 million of 10.25% Senior Secured Notes in a private placement ("10.25% Senior Secured Notes"). The 10.25% Senior Secured Notes are governed by an indenture (the “Senior Secured Notes Indenture”) entered into among us, the guarantor party thereto and U.S. Bank National Association, in its capacity as trustee and collateral agent. The 10.25% Senior Secured Notes are secured by certain of our operations and maintenance agreements that previously were part of the security for the 6% Convertible Notes. We used the proceeds of this issuance to repay $70.0 million of our 10% Convertible Notes. The 10.25% Senior Secured Notes are supported by a $150.0 million indenture between us and U.S. Bank National Association, which contains an accordion feature for an additional $80.0 million of notes that can be issued on or prior to September 27, 2021.

Interest on the 10.25% Senior Secured Notes is payable quarterly, commencing June 30, 2020. The 10.25% Senior Secured Notes Indenture contains customary events of default and covenants relating to, among other things, the incurrence of new debt, affiliate transactions, liens and restricted payments. On or after March 27, 2022, we may redeem all of the 10.25% Senior Secured Notes at a price equal to 108% of the principal amount of the 10.25% Senior Secured Notes plus accrued and unpaid interest, with such optional redemption prices decreasing to 104% on and after March 27, 2023, 102% on and after March 27, 2024 and 100% on and after March 27, 2026. Before March 27, 2022, we may redeem the 10.25% Senior Secured Notes upon repayment of a make-whole premium. If we experience a change of control, we must offer to purchase for cash all or any part of each holder’s 10.25% Senior Secured Notes at a purchase price equal to 101% of the principal amount of the 10.25% Senior Secured Notes, plus accrued and unpaid interest. The outstanding unpaid principal of the 10.25% Senior Secured Notes of $70.0 million was classified as non-current as of December 31, 2020.

2.5% Green Convertible Senior Notes due August 2025 - In August 2020, we issued $230.0 million aggregate principal amount of our 2.5% Green Convertible Senior Notes due August 2025, unless earlier repurchased, redeemed or converted ("Green Notes"). The principal amount of the Green Notes are $230.0 million, less initial purchaser's discount of $6.9 million and other issuance costs of $3.0 million resulting in net proceeds of $220.1 million.

The Green Notes are senior, unsecured obligations accruing interest at a rate of 2.5% per annum, payable semi-annually in arrears on February 15 and August 15 of each year, beginning on February 15, 2021.

We may not redeem the Green Notes prior to August 21, 2023. We may elect to redeem, at face value, all or any portion of the Green Notes at any time on or after August 21, 2023 and on or before the twenty-sixth trading day immediately before the maturity date, provided certain conditions are met.

Before May 15, 2025, the noteholders have the right to convert their Green Notes only upon the occurrence of certain events, including a conversion upon satisfaction of a condition relating to the closing price of our common stock ("the Closing Price Condition"). If the Closing Price Condition is met on at least 20 of the last 30 consecutive trading days in any quarter, the noteholders may convert their Green Notes at any time during the immediately following quarter. The Closing Price Condition was met during the quarter ended December 31, 2020 and accordingly, the noteholders may convert their Green Notes at any time during the quarter ending March 31, 2021. From and after May 15, 2025, the noteholders may convert their Green Notes at any time at their election until the close of business on the second trading day immediately before the maturity date. Should the noteholders elect to convert their Green Notes, we may elect to settle the conversion by paying or delivering, as applicable, cash, shares of our Class A common stock or a combination thereof.

The initial conversion rate is 61.6808 shares of Class A common stock per $1,000 principal amount of notes, which represents an initial conversion price of approximately $16.21 per share of Class A common stock. The conversion rate and conversion price are subject to customary adjustments upon the occurrence of certain events. In addition, if certain corporate events that constitute a “Make-Whole Fundamental Change” as defined occur, then the conversion rate will, in certain circumstances, be increased for a specified period of time.

In the accounting for the issuance of the Green Notes, we separated the $230.0 million aggregate principal amount into liability and equity components in accordance with ASC 470 – 20, *Debt with Conversion and Other Options*. The fair value of the liability component for the Green Notes of approximately $93.3 million was calculated by measuring the fair value of similar debt instruments that do not have an associated convertible feature and was classified as non-current debt on the consolidated balance sheet. The carrying amount of the equity component for the Green Notes of approximately $138.1 million, representing the conversion option, was determined by deducting the fair value of the liability component from the principal amount of the notes. The difference between the principal amount of the notes and the liability component represents the debt discount, is presented as a reduction to the notes on our consolidated balance sheets, and is amortized to interest expense using the effective interest method over the remaining term of the notes. The equity component of the Green Notes is included in additional paid-in capital on our consolidated balance sheets and is not remeasured as long as it continues to meet the conditions for equity classification.

We incurred issuance costs related to the Green Notes of approximately $9.9 million, consisting of the initial purchaser's discount of $6.9 million and other issuance costs of approximately $3.0 million. In accounting for the issuance costs, we allocated the total amount to the liability and equity components using the same proportions determined above for the notes. Transaction costs attributable to the liability component for the Green Notes of approximately $4.2 million were recorded as debt issuance costs, presented as a reduction to the notes on our consolidated balance sheets, and are amortized to interest expense using the effective interest method over the term of the notes. The issuance costs attributable to the equity component for the Green Notes were approximately $5.7 million and were recorded as a reduction to the equity component included in additional paid-in capital.

As of December 31, 2020, the remaining lives of the Green Notes are approximately 4.7 years and accordingly, the Green Notes are classified as long-term debt. The effective interest rate of the liability components for the Green Notes is 21.9% and is based on the interest rate of similar debt instruments, at the time of our offering, that do not have associated convertible features. Total interest expense recognized related to the Green Notes for the year ended December 31, 2020 was $8.3 million, comprised of contractual interest expense of $2.2 million, amortization of debt discount of $5.9 million and amortization of issuance costs of $0.2 million.

Non-recourse Debt Facilities

7.5% Term Loan due September 2028 - In December 2012 and later amended in August 2013, PPA IIIa entered into a $46.8 million credit agreement to help fund the purchase and installation of our Energy Servers. The loan bears a fixed interest rate of 7.5% payable quarterly. The loan requires quarterly principal payments which began in March 2014. The credit agreement requires us to maintain a debt service reserve for all funded systems, the balance of which was $3.8 million and $3.8 million as of December 31, 2020 and 2019, respectively, which was included as part of long-term restricted cash in the consolidated balance sheets. The loan is secured by all assets of PPA IIIa.

6.07% Senior Secured Notes due March 2030 - The notes bear a fixed interest rate of 6.07% per annum payable quarterly, which began in December 2015 and ends in March 2030. The notes are secured by all the assets of the PPA IV. The note purchase agreement requires us to maintain a debt service reserve, the balance of which was $8.5 million and $8.0 million as of December 31, 2020 and 2019, respectively, which was included as part of long-term restricted cash in the consolidated balance sheets. The notes are secured by all the assets of the PPA IV.

LIBOR + 2.5% Term Loan due December 2021 - The current portion of the LIBOR + 2.5% Term Loan as of December 31, 2020 and 2019 was $114.1 million and $5.1 million, respectively. The non-current portion of this loan was zero and $115.3 million as of December 31, 2020 and 2019, respectively.

In accordance with the credit agreement, PPA V was issued floating rate debt based on LIBOR plus a margin, paid quarterly. The applicable margins used for calculating interest expense are 2.25% for years 1-3 following the Term Conversion Date and 2.5% thereafter. For the lenders' commitments to the loan and the commitments to a letter of credit ("LC") facility, the PPA V also pays commitment fees at 0.50% per annum over the outstanding commitments, paid quarterly. The loan is secured by all the assets of the PPA V and requires quarterly principal payments which began in March 2017. In connection with the floating-rate credit agreement, in July 2015, PPA V entered into pay-fixed, receive-float interest rate swap agreements to convert its floating-rate loan into a fixed-rate loan.

Letters of Credit due December 2021 - In June 2015, PPA V entered into a $131.2 million term loan due December 2021. The agreement also included commitments to a LC facility with the aggregate principal amount of $6.4 million, later adjusted down to $6.2 million. The amount reserved under the letter of credit as of December 31, 2020 and 2019 was $5.2 million and $5.0 million, respectively. The unused capacity as of December 31, 2020 and 2019 was $1.0 million and $1.2 million, respectively.

Related Party Debt

Portions of the above described recourse and non-recourse debt were held by various related parties. See Note 16 - *Related Party Transactions* for a full description.

Repayment Schedule and Interest Expense

The following table presents details of our outstanding loan principal repayment schedule as of December 31, 2020 (in thousands):

2021	$ 121,469
2022	16,393
2023	22,166
2024	24,886
2025	258,022
Thereafter	84,118
	$ 527,054

Interest expense of $78.8 million, $94.2 million and $105.9 million for the years ended December 31, 2020, 2019 and 2018, respectively, was recorded in interest expense on the consolidated statements of operations, which includes interest expense - related parties of $2.5 million, $6.8 million and $8.9 million, respectively.

8. Derivative Financial Instruments

Interest Rate Swaps

We use various financial instruments to minimize the impact of variable market conditions on our results of operations. We use interest rate swaps to minimize the impact of fluctuations of interest rate changes on our outstanding debt where London Inter-bank Offered Rate ("LIBOR") is applied. We do not enter into derivative contracts for trading or speculative purposes.

The fair values of the derivatives designated as cash flow hedges as of December 31, 2020 and 2019 on our consolidated balance sheets are as follows (in thousands):

	December 31,	
	2020	2019
Assets		
Prepaid expenses and other current assets	$ —	$ 3
	$ —	$ 3
Liabilities		
Accrued expenses and other current liabilities	$ 15,989	$ 782
Derivative liabilities	—	8,459
	$ 15,989	$ 9,241

PPA V - In July 2015, PPA V entered into nine interest rate swap agreements to convert a variable interest rate debt to a fixed rate and we designated and documented the interest rate swap arrangements as cash flow hedges. Three of these swaps matured in 2016, three will mature on December 21, 2021 and the remaining three will mature on September 30, 2031. The effective change is recorded in accumulated other comprehensive income (loss) and is recognized as interest expense on settlement. The notional amounts of the swaps are $181.4 million, $184.2 million and $186.6 million as of December 31, 2020, 2019 and 2018, respectively.

We measure the swaps at fair value on a recurring basis. Fair value is determined by discounting future cash flows using LIBOR rates with appropriate adjustment for credit risk. We realized immaterial gains attributable to the change in valuation during the years ended December 31, 2020, 2019 and 2018, and these gains are included in other income (expense), net, in the consolidated statements of operations.

The changes in fair value of the derivative contracts designated as cash flow hedges and the amounts recognized in accumulated other comprehensive income (loss) and in earnings are as follows (in thousands):

	Years ended December 31,	
	2020	2019
Beginning balance	$ 9,238	$ 3,548
Loss recognized in other comprehensive loss	8,465	6,131
Amounts reclassified from other comprehensive loss to earnings	(1,569)	(216)
Net loss recognized in other comprehensive loss	6,896	5,915
Gain recognized in earnings	(145)	(225)
Ending balance	$ 15,989	$ 9,238

For the years ended December 31, 2020 and 2019, we recognized a loss of $0.1 million and $0.8 million, respectively, on the remeasurement of our natural gas fixed price forward contract. For the years ended December 31, 2020 and 2019, we recognized a realized gain of $4.5 million and $3.6 million, respectively, on the settlement of these contracts. Gains and losses are recorded in cost of revenue on the consolidated statements of operations.

Embedded EPP Derivatives in Sales Contracts

We estimate the fair value of the embedded EPP derivatives in certain of the contracts with our customers using a Monte Carlo simulation model, which considers various potential electricity price forward curves over the sales contracts' terms. We use historical grid prices and available forecasts of future electricity prices to estimate future electricity prices. The grid pricing EPP guarantees that we provided in some of our sales arrangements represent an embedded derivative, with the initial value accounted for as a reduction in product revenue and any changes, reevaluated quarterly, in the fair market value of the derivative recorded in gain (loss) on revaluation of embedded derivatives. We recognized an unrealized gain of $0.6 million, a loss of $2.2 million and a gain of $0.2 million attributable to the change in fair value for the years ended December 31, 2020, 2019 and 2018, respectively. These gains and losses are included within loss on revaluation of embedded derivatives in the consolidated statements of operations. The fair value of these derivatives is $5.5 million, $6.2 million and $4.0 million as of December 31, 2020, 2019 and 2018, respectively.

9. Stockholders' Equity

Our capitalization as of December 31, 2020 and 2019 is as follows:

		December 31,	
	Authorized	2020	2019
Shares issued and outstanding:			
Total common stock - Class A[1] - par value $0.0001	600,000,000	140,094,633	84,549,511
Total common stock - Class B[1] - par value $0.0001	600,000,000	27,908,093	36,486,778
Total preferred stock	10,000,000	—	—
		168,002,726	121,036,289
Rights to acquire stock:			
Stock Plans' options and other equity awards outstanding:			
2002 stock plan - options		1,265,656	1,856,154
2012 equity incentive plan - options		8,877,792	9,982,756
2012 equity incentive plan - other equity awards		504,034	6,656,094
2018 equity incentive plan - options		5,210,823	5,998,406
2018 equity incentive plan - other equity awards		5,914,754	3,456,172
Warrants outstanding:			
Common stock warrants - exercise price of $27.78		468,548	481,181
Common stock warrants - exercise price of $38.64		12,940	12,940
Shares reserved for future issuance:			
Total options/RSUs available for grant - 2018 Plan		20,233,754	17,233,144
Total shares available for grant - 2018 ESPP		2,587,874	3,030,407

[1] We have two classes of authorized common stock, Class A common stock and Class B common stock. The rights of the holders of Class A common stock and Class B common stock are identical, except with respect to voting and conversion rights. Each share of Class A common stock is entitled to one vote per share. Each share of Class B common stock is entitled to ten votes per share and is convertible into one share of Class A common stock at the discretion of its holder, or automatically upon the earliest to occur of (i) immediately prior to the close of business on July 27, 2023, (ii) immediately prior to the close of business on the date on which the outstanding shares of Class B common stock represent less than five percent (5%) of the aggregate number of shares of Class A common stock and Class B common stock then outstanding, (iii) the date and time or the occurrence of an event specified in a written conversion election delivered by KR Sridhar to our Secretary or Chairman of the Board to so convert all shares of Class B common stock, or (iv) immediately following the date of the death of KR Sridhar.

10. Stock-Based Compensation and Employee Benefit Plans

Share-based grants are designed to reward employees for their long-term contributions to us and provide incentives for them to remain with us.

2002 Stock Plan

Our 2002 Stock Plan (the "2002 Plan") was approved in April 2002 and amended in June 2011. In August 2012 and in connection with the adoption of the 2012 Plan, shares authorized for issuance under the 2002 Plan were cancelled, except for those shares reserved for issuance upon exercise of outstanding stock options. Any outstanding stock options granted under the 2002 Plan remain outstanding, subject to the terms of the 2002 Plan, until such shares are issued under those awards (by exercise of stock options) or until the awards terminate or expire by terms.

Grants under the 2002 Plan generally vest ratably over a four-year period from the vesting commencement date and expire ten years from grant date. Original grants under the 2002 Plan were for "common stock". Pursuant to the Twelfth Amended and Restated Articles of Incorporation authorized in July 2018, all such shares automatically converted to Class B shares of common stock. As of December 31, 2020, options to purchase 1,265,656 shares of Class B common stock were outstanding with a weighted average exercise price of $26.64 per share. The 2002 Stock Plan has been canceled; however, it continues to govern outstanding grants under the 2002 Stock Plan.

2012 Equity Incentive Plan

Our 2012 Equity Incentive Plan (the "2012 Plan") was approved in August 2012. The 2012 Plan provided for the grant of incentive stock options, non-statutory stock options, stock appreciation rights and restricted stock awards ("RSUs"), all of which may be granted to employees, including officers, and to non-employee directors and consultants except we may grant incentive stock options only to employees.

Grants under the 2012 Plan generally vest ratably over a four-year period from the vesting commencement date and expire ten years from grant date. Original grants under the 2012 Plan were for "common stock". Pursuant to the Twelfth Amended and Restated Articles of Incorporation authorized in July 2018, all such shares automatically converted to Class B shares of common stock. As of December 31, 2020, stock options to purchase 8,877,792 shares of Class B common stock were outstanding with a weighted average exercise price of $27.43 per share and no shares were available for future grant. As of December 31, 2020, we had outstanding RSUs that may be settled for 504,034 shares of Class B common stock under the plan. The 2012 Equity Incentive Plan has been canceled; however, it continues to govern outstanding grants under the 2012 Equity Incentive Plan.

2018 Equity Incentive Plan

The 2018 Equity Incentive Plan (the "2018 Plan") was approved in April 2018. The 2018 Plan became effective upon the IPO and will serve as the successor to the 2012 Plan. The 2018 Plan authorizes the award of stock options, restricted stock awards, stock appreciation rights, RSUs, PSUs and stock bonuses. The 2018 Plan provides for the grant of awards to employees, directors, consultants, independent contractors and advisors provided the consultants, independent contractors, directors and advisors render services not in connection with the offer and sale of securities in a capital-raising transaction. The exercise price of stock options is at least equal to the fair market value of Class A common stock on the date of grant. Grants under the 2018 Plan generally vest ratably over a four-year period from the vesting commencement date and expire ten years from grant date.

The 2018 Plan allows for an annual increase on January 1, of each of 2019 through 2028, by the lesser of (a) four percent (4%) of the number of Class A common stock, Class B common stock, and common stock equivalents (including options, RSUs, warrants and preferred stock on an as-converted basis) issued and outstanding on each December 31 immediately prior to the date of increase, and (b) such number of shares determined by the Board of Directors.

As of December 31, 2020, stock options to purchase 5,210,823 shares of Class A common stock were outstanding with a weighted average exercise price of $9.48 per share and 5,914,754 shares of outstanding RSUs that may be settled for Class A common stock which were granted pursuant to the 2018 Plan.

Stock-Based Compensation Expense

We used the following weighted-average assumptions in applying the Black-Scholes valuation model for determination of option valuation:

	Years Ended December 31,		
	2020	**2019**	**2018**
Risk-free interest rate	0.6%	1.7% - 2.6%	2.5% - 3.1%
Expected term (years)	6.6	6.4 - 6.7	6.2 - 6.7
Expected dividend yield	—	—	—
Expected volatility	71.0%	45.7% - 50.2%	52.4% - 56.1%

The following table summarizes the components of stock-based compensation expense in the consolidated statements of operations (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Cost of revenue	$ 17,475	$ 45,429	$ 29,680
Research and development	19,037	40,949	39,029
Sales and marketing	10,997	32,478	32,284
General and administrative	26,384	77,435	67,489
	$ 73,893	$ 196,291	$ 168,482

As of December 31, 2020, 2019 and 2018, we capitalized $5.9 million, $7.3 million and $13.6 million of stock-based compensation cost, respectively, into inventory and property, plant and equipment.

Stock Option and RSU Activity

The following table summarizes the stock option activity under our stock plans during the reporting period:

	Outstanding Options			
	Number of Shares	Weighted Average Exercise Price	Remaining Contractual Life (Years)	Aggregate Intrinsic Value
				(in thousands)
Balances at December 31, 2018	14,558,420	$ 25.93	6.8	$ 3,084
Granted	4,956,064	5.60		
Exercised	(358,564)	4.26		
Cancelled	(1,318,604)	25.33		
Balances at December 31, 2019	17,837,316	20.76	6.9	14,964
Granted	200,000	7.30		
Exercised	(1,341,324)	11.18		
Cancelled	(1,341,721)	22.49		
Balances at December 31, 2020	15,354,271	21.27	6.0	129,855
Vested and expected to vest at December 31, 2020	14,976,706	21.55	5.9	122,813
Exercisable at December 31, 2020	10,311,316	26.37	4.9	39,569

Stock Options - During the years ended December 31, 2020, 2019 and 2018, we recognized $19.1 million, $36.2 million and $33.3 million of stock-based compensation costs for stock options, respectively.

During the years ended December 31, 2020, 2019 and 2018, the intrinsic value of stock options exercised was $11.2 million, $2.6 million and $9.2 million, respectively.

We granted 200,000 and 4,956,064 options of Class A common stock during the years ended December 31, 2020 and 2019, and the weighted average grant-date fair value of the awards was $7.30 per share and $5.60 per share, respectively.

As of December 31, 2020 and 2019, we had unrecognized compensation costs related to unvested stock options of $20.7 million and $41.9 million, respectively. This cost is expected to be recognized over the remaining weighted-average period of 1.8 years and 2.8 years, respectively. Cash received from stock options exercised totaled $15.0 million and $1.5 million for the years ended December 31, 2020 and 2019, respectively.

A summary of our RSUs activity and related information is as follows:

	Number of Awards Outstanding	Weighted Average Grant Date Fair Value
Unvested Balance at December 31, 2018	16,784,800	$ 18.74
Granted	3,219,959	11.81
Vested	(8,921,807)	18.03
Forfeited	(970,686)	17.34
Unvested Balance at December 31, 2019	10,112,266	17.29
Granted	4,744,467	12.43
Vested	(7,806,038)	17.48
Forfeited	(631,907)	14.93
Unvested Balance at December 31, 2020	6,418,788	13.71

Restricted Stock Units - The estimated fair value of RSU awards is based on the fair value of our Class A common stock on the date of grant. For the years ended December 31, 2020, 2019 and 2018, we recognized $44.1 million, $141.3 million and $142.4 million of stock-based compensation costs for RSUs, respectively.

As of December 31, 2020, we had $59.8 million of unrecognized stock-based compensation cost related to unvested RSUs. This cost is expected to be recognized over a weighted average period of 2.2 years. As of December 31, 2019, we had $52.0 million of unrecognized stock-based compensation cost related to unvested RSUs, which was expected to be recognized over a weighted average period of 1.1 years.

Executive Awards

In November 2019, the Board approved stock options ("2019 Executive Awards") to certain executive staff. The 2019 Executive Awards were granted pursuant to the 2018 EIP and consist of three vesting tranches with a vesting schedule based on the attainment of market conditions and assuming continued employment and service through each vesting date. Stock-based compensation costs associated with the 2019 Executive Awards are recognized over the service period, even though no tranches of the 2019 Performance Awards vest unless a market condition is achieved. The grant date fair value of the options is determined using a Monte Carlo simulation.

In June 2020, the Board approved stock awards ("2020 Executive Awards") to certain executive staff. The 2020 Executive Awards were PSUs granted pursuant to the 2018 EIP and consist of three vesting tranches with an annual vesting schedule based on the attainment of performance conditions and assuming continued employment and service through each vesting date. Stock-based compensation costs associated with the 2020 Executive Awards is recognized over the service period as we evaluate the probability of the achievement of the performance conditions.

In addition, during 2020, other PSUs were granted to certain executive officers and other employees that will only vest upon the achievement of certain specific financial or operational performance criteria.

The following table presents the stock activity and the total number of shares available for grant under our stock plans as of December 31, 2020:

	Plan Shares Available for Grant
Balances at December 31, 2018	17,457,847
Added to plan	7,585,422
Granted	(8,176,023)
Cancelled	2,289,290
Expired	(1,923,392)
Balances at December 31, 2019	17,233,144
Added to plan	7,179,751
Granted	(4,944,467)
Cancelled	1,965,801
Expired	(1,200,475)
Balances at December 31, 2020	20,233,754

2018 Employee Stock Purchase Plan

In April 2018, we adopted the 2018 ESPP. The 2018 ESPP became effective upon our initial public offering ("IPO") in July 2018. The 2018 ESPP is intended to qualify under Section 423 of the Internal Revenue Code. The aggregate number of our shares that may be issued over the term of our ESPP is 33,333,333 Class A common stock. A total of 3,333,333 shares of our Class A common stock were initially reserved for issuance under the plan. The number of shares reserved for issuance under the 2018 ESPP will increase automatically on the 1st day of January of each of the first nine years following the first offering date by the number of shares equal to one percent (1%) of the total number of Class A common stock, Class B common stock, and common stock equivalents (including options, RSUs, warrants and preferred stock on an as converted basis) issued and outstanding on the immediately preceding December 31 (rounded down to the nearest whole share); provided, that the Board of Directors or the Compensation Committee may in its sole discretion reduce the amount of the increase in any particular year.

The 2018 ESPP allows eligible employees to purchase shares, subject to purchase limits of 2,500 shares during each six month period or $25,000 worth of stock for each calendar year, of our Class A common stock through payroll deductions at a price per share equal to 85% of the lesser of the fair market value of our Class A common stock (i) on the first trading day of the applicable offering date and (ii) the last trading day of each purchase date.

During the years ended December 31, 2020 and 2019, we recognized $5.7 million and $10.3 million of stock-based compensation costs for the 2018 ESPP, respectively. We issued 1,937,825 shares in the year ended December 31, 2020. During the year ended December 31, 2020, we added an additional 1,494,819 shares and there were 2,587,401 shares available for issuance as of December 31, 2020.

As of December 31, 2020, we had $1.7 million of unrecognized stock-based compensation costs. This cost is expected to be recognized over a weighted average period of 0.3 years.

We used the following weighted-average assumptions in applying the Black-Scholes valuation model for determination of the 2018 ESPP share valuation:

	Years Ended December 31,	
	2020	2019
Risk-free interest rate	0.12% - 1.51%	1.5% - 2.6%
Expected term (years)	0.5 - 2.0	0.5 - 2.0
Expected dividend yield	—	—
Expected volatility	61.0% - 119.2%	45.9% - 54.0%

11. Income Taxes

The components of income (loss) before the provision for income taxes are as follows (in thousands):

	Years Ended December 31,		
	2020	2019	2018
United States	$ (179,657)	$ (324,467)	$ (291,574)
Foreign	826	1,634	1,835
Total	$ (178,831)	$ (322,833)	$ (289,739)

The provision for income taxes is comprised of the following (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Current:			
Federal	$ —	$ —	$ —
State	21	26	191
Foreign	472	595	1,407
Total current	493	621	1,598
Deferred:			
Federal	—	—	—
State	—	—	—
Foreign	(237)	12	(61)
Total deferred	(237)	12	(61)
Total provision for income taxes	$ 256	$ 633	$ 1,537

A reconciliation of the U.S. federal statutory income tax rate to our effective tax rate is as follows (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Tax at federal statutory rate	$ (37,552)	$ (67,795)	$ (60,845)
State taxes, net of federal effect	21	26	191
Impact on noncontrolling interest	4,522	4,001	3,725
Non-U.S. tax effect	78	264	960
Nondeductible expenses	908	144	6,796
Stock-based compensation	5,956	6,484	3,892
Loss on debt extinguishment	214	—	—
U.S. tax on foreign earnings (GILTI)	203	221	127
Change in valuation allowance	25,906	57,288	46,691
Provision for income taxes	$ 256	$ 633	$ 1,537

For the year ended December 31, 2020, we recognized a provision for income taxes of $0.3 million on a pre-tax loss of $178.8 million, for an effective tax rate of (0.1)%. For the year ended December 31, 2019, we recognized a provision for income taxes of $0.6 million on a pre-tax loss of $322.8 million, for an effective tax rate of (0.2)%. For the year ended December 31, 2018, we recognized a provision for income taxes of $1.5 million on a pre-tax loss of $289.7 million, for an effective tax rate of (0.5)%. The effective tax rate for 2020, 2019 and 2018 is lower than the statutory federal tax rate primarily due to a full valuation allowance against U.S. deferred tax assets.

Significant components of our deferred tax assets and liabilities consist of the following (in thousands):

	December 31,	
	2020	2019
Tax credits and net operating loss carryforwards	$ 510,599	$ 494,084
Lease liabilities	128,151	122,145
Depreciation and amortization	7,541	8,523
Deferred revenue	27,134	6,688
Accruals and reserves	15,068	5,874
Stock-based compensation	35,815	61,808
Other items - deferred tax assets	25,931	24,443
Gross deferred tax assets	750,239	723,565
Valuation allowance	(614,958)	(633,591)
Net deferred tax assets	135,281	89,974
Investment in PPA entities	(10,757)	(13,494)
Debt issuance cost	—	(4,055)
Discount upon issuance of debt	(29,513)	—
Managed services - deferred costs	(21,898)	—
Right-of-use assets and leased assets	(70,818)	(65,978)
Other items - deferred tax liability	(1,413)	(5,803)
Gross deferred tax liabilities	(134,399)	(89,330)
Net deferred tax asset	$ 882	$ 644

Income taxes are recorded using the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income (or loss) in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date.

A valuation allowance is provided for the amount of deferred tax assets that, based on available evidence, is not more-likely-than-not to be realized. Management believes that, based on available evidence, both positive and negative, it is not more likely than not that the net U.S. deferred tax assets will be utilized. As a result, a full valuation allowance has been recorded.

The valuation allowance for deferred tax assets was $615.0 million and $633.6 million as of December 31, 2020 and 2019, respectively. The net change in the total valuation allowance for the years ended December 31, 2020 and 2019 was a decrease of $18.6 million and an increase of $62.3 million, respectively.

At December 31, 2020, we had federal and state net operating loss carryforwards of $1.9 billion and $1.6 billion, respectively, to reduce future taxable income. Of the federal net operating loss carryforwards, $1.7 billion will begin to expire in 2022 and $224.8 million will carryforward indefinitely, while state net operating losses begin to expire in 2028. In addition, we had approximately $23.0 million of federal research credit, $6.6 million of federal investment tax credit, and $14.7 million of state research credit carryforwards. The federal tax credit carryforwards begin to expire in 2022. The state credit carryforwards may be carried forward indefinitely. We have not reflected deferred tax assets for the federal and state research credit carryforwards as the entire amount of the carryforwards represent unrecognized tax benefits.

Internal Revenue Code Section 382 (“Section 382”) limits the use of net operating loss and tax credit carryforwards in certain situations in which changes occur in our capital stock ownership. Any annual limitation may result in the expiration of net operating losses and credits before utilization. If we should have an ownership change, as defined by the tax law, utilization of the net operating loss and credit carryforwards could be significantly reduced. We completed a Section 382 analysis through December 31, 2020. Based on this analysis, Section 382 limitations will not have a material impact on our net operating loss and credit carryforwards related to any ownership changes.

During the year ended December 31, 2020, the amount of uncertain tax positions increased by $3.3 million. We have not recorded any uncertain tax liabilities associated with our tax positions.

A reconciliation of the beginning and ending amounts of unrecognized tax benefits were as follows (in thousands):

	Years Ended December 31,	
	2020	**2019**
Unrecognized tax benefits beginning balance	$ 34,480	$ 30,311
Gross decrease for tax positions of prior year	—	(93)
Gross increase for tax positions of prior year	307	615
Gross increase for tax positions of current year	2,966	3,647
Unrecognized tax benefits end balance	$ 37,753	$ 34,480

If fully recognized in the future, there would be no impact to the effective tax rate, and $34.7 million would result in adjustments to the valuation allowance. We do not have any tax positions that are expected to significantly increase or decrease within the next 12 months.

Interest and penalties, to the extent there are any, would be included in income tax expense. There were no interest or penalties accrued during or for the years ended December 31, 2020 and 2019.

We are subject to taxation in the United States and various states and foreign jurisdictions. We currently do not have any income tax examinations in progress nor have we had any income tax examinations since our inception. All of our tax years will remain open for examination by federal and state authorities for three and four years from the date of utilization of any net operating losses and tax credits.

The Tax Cuts and Jobs Act of 2017 ("Tax Act") includes a provision referred to as Global Intangible Low-Taxed Income ("GILTI") which generally imposes a tax on foreign income in excess of a deemed return on tangible assets. Guidance issued by the Financial Accounting Standards Board in January 2018 allows companies to make an accounting policy election to either (i) account for GILTI as a component of tax expense in the period in which the tax is incurred ("period cost method"), or (ii) account for GILTI in the measurement of deferred taxes ("deferred method"). We elected to account for the tax effects of this provision using the period cost method.

The Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act") was enacted in the United States on March 27, 2020. The CARES Act includes several U.S. income tax provisions related to, among other things, net operating loss carrybacks, alternative minimum tax credits, modifications to the net interest deduction limitations, and technical amendments regarding the income tax depreciation of qualified improvement property placed in service after December 31, 2017. The CARES Act does not have a material impact on our financial results for the year ended December 31, 2020.

Our accumulated undistributed foreign earnings as of December 31, 2020 have been subject to either the deemed one-time mandatory repatriation under the Tax Act or the current year income inclusion under GILTI regime for U.S. tax purposes. If we were to make actual distributions of some or all of these earnings, including earnings accumulated after December 31, 2017, we would generally incur no additional U.S. income tax but could incur U.S. state income tax and foreign withholding taxes. We have not accrued for these potential U.S. state income tax and foreign withholding taxes because we intend to permanently reinvest our foreign earnings in our international operations. However, any additional income tax associated with the distribution of these earnings would be immaterial.

12. Net Loss per Share Available to Common Stockholders

Net loss per share (basic) available to common stockholders is calculated by dividing net loss available to common stockholders by the weighted-average shares of common stock outstanding for the period. Net loss per share is the same for each class of common stock as they are entitled to the same liquidation and dividend rights. As a result, net loss per share (basic) and net loss per share (diluted) available to common stockholders are the same for both Class A and Class B common stock and are combined for presentation.

Net loss per share (diluted) is computed by using the "if-converted" method when calculating the potentially dilutive effect, if any, of our convertible notes. Net loss per share (diluted) available to common stockholders is then calculated by dividing the resulting adjusted net loss available to common stockholders by the combined weighted-average number of fully diluted common shares outstanding. There were no adjustments to net loss available to common stockholders (diluted). Equally, there were no adjustments to the weighted average number of outstanding shares of common stock (basic) in arriving at the weighted average number of outstanding shares (diluted), as such adjustments would have been antidilutive.

We recognized a deemed dividend of $2.5 million on November 26, 2019 related to our buyout of the tax equity partner's equity interest in PPA IIIb. The deemed dividend was recorded as a result of the buyout amount exceeding the hypothetical liquidation book value of the tax equity investor's equity interest in PPA IIIb on the date the buyout occurred. This charge impacted net income available to common stockholders and earnings per share in the year ended December 31, 2019.

The following table sets forth the computation of our net loss per share available to common stockholders, basic and diluted (in thousands, except per share amounts):

	Years Ended December 31,		
	2020	**2019**	**2018**
Numerator:			
Net loss attributable to Class A and Class B common stockholders	$ (157,553)	$ (304,414)	$ (273,540)
Deemed dividend	—	(2,454)	—
Net loss available to Class A and Class B common stockholders	$ (157,553)	$ (306,868)	$ (273,540)
Denominator:			
Weighted average shares of common stock, basic and diluted	138,722	115,118	53,268
Net loss per share available to Class A and Class B common stockholders, basic and diluted	$ (1.14)	$ (2.67)	$ (5.14)

The following common stock equivalents (in thousands) were excluded from the computation of our net loss per share available to common stockholders, diluted, for the years presented as their inclusion would have been antidilutive:

	Years Ended December 31,		
	2020	**2019**	**2018**
Convertible notes	29,729	27,213	27,230
Stock options and awards	6,109	4,631	4,962
	35,838	31,844	32,192

13. Portfolio Financings

Overview

We have developed three financing options that enable customers' use of the Energy Servers through third-party ownership financing arrangements. One of these financing options requires the customer to pay for each kilowatt-hour produced by the Energy Servers under a PPA through a Portfolio Financing.

In some cases, similar to direct purchases and leases, the standard one-year warranty and performance guaranties are included in the price of the product. The Operating Company also enters into a master services agreement with us following the first year of service to extend the warranty services and guaranties over the term of the PPA. In other cases, the master services agreements including performance warranties and guaranties are billed on a quarterly basis starting in the first quarter following the placed-in-service date of the Energy Server(s) and continuing over the term of the PPA. The first of such arrangements was considered a sales-type lease and the product revenue from that agreement was recognized upfront in the same manner as direct purchase and lease transactions. Substantially all of our subsequent PPAs have been accounted for as operating leases with the related revenue under those agreements recognized ratably over the PPA term as electricity revenue. We recognize the cost of revenue, primarily product costs and maintenance service costs, over the shorter of the estimated useful life of the Energy Server or the term of the PPA.

We and our third-party equity investors (together "Equity Investors") contribute funds into a limited liability investment entity ("Investment Company") that owns and is parent to the Operating Company (together, the "PPA Entities"). These PPA Entities constitute VIEs under U.S. GAAP. We have considered the provisions within the contractual agreements which grant us power to manage and make decisions affecting the operations of these VIEs. We consider that the rights granted to the Equity Investors under the contractual agreements are more protective in nature rather than participating. Therefore, we have determined under the power and benefits criterion of ASC 810, *Consolidations* that we are the primary beneficiary of these VIEs. As the primary beneficiary of these VIEs, we consolidate in our consolidated financial statements the financial position, results of operations and cash flows of the PPA Entities, and all intercompany balances and transactions between us and the PPA Entities are eliminated in the consolidated financial statements.

In accordance with our Portfolio Financings, the Operating Company acquires Energy Servers from us for cash payments that are made on a similar schedule as if the Operating Company were a customer purchasing an Energy Server from us outright. In the consolidated financial statements, the sale of Energy Servers by us to the Operating Company are treated as intercompany transactions and as a result eliminated in consolidation. The acquisition of Energy Servers by the Operating Company is accounted for as a non-cash reclassification from inventory to Energy Servers within property, plant and equipment, net on our consolidated balance sheets. In arrangements qualifying for sales-type leases, we reduce these recorded assets by amounts received from U.S. Treasury Department cash grants and from similar state incentive rebates.

The Operating Company sells the electricity to end customers under PPAs. Cash generated by the electricity sales, as well as receipts from any applicable government incentive program, is used to pay operating expenses (including the management and services we provide to maintain the Energy Servers over the term of the PPA) and to service the non-recourse debt with the remaining cash flows distributed to the Equity Investors. In transactions accounted for as sales-type leases, we recognize subsequent customer billings as electricity revenue over the term of the PPA and amortize any applicable government incentive program grants as a reduction to depreciation expense of the Energy Server over the term of the PPA. In transactions accounted for as operating leases, we recognize subsequent customer payments and any applicable government incentive program grants as electricity revenue and service revenue over the term of the PPA.

Upon sale or liquidation of a PPA Entity, distributions would occur in the order of priority specified in the contractual agreements.

We have established six different PPA Entities to date. The contributed funds are restricted for use by the Operating Company to the purchase of our Energy Servers manufactured by us in our normal course of operations. All six PPA Entities utilized their entire available financing capacity and have completed the purchase of their Energy Servers. Any debt incurred by the Operating Companies is non-recourse to us. Under these structures, each Investment Company is treated as a partnership for U.S. federal income tax purposes. Equity Investors receive investment tax credits and accelerated tax depreciation benefits. In 2016, we purchased the tax equity investor’s interest in PPA I, which resulted in a change in our ownership interest in PPA I while we continued to hold the controlling financial interest in this company. In 2019, we bought out the then-existing tax equity investors' interest in the PPA II Investment Company, and admitted two new equity investors as a member of the PPA II Operating Company, retaining only a minor equity interest in the Operating Company. One of the new equity investors became the managing member, and as a result we determined that we no longer retained a controlling interest in the Operating Company in PPA II and therefore, the Operating Company was no longer consolidated as a VIE into our consolidated financial statements. In 2019, we also entered into a PPA IIIb upgrade of Energy Servers transaction where we bought out the equity interest of the third-party investor, decommissioned the Energy Servers in the Operating Company and sold new Energy Servers deployed at customer sites through our managed services financing option. The PPA IIIb Investment Company and Operating Company became wholly-owned by us but no longer met the definition of a VIE. We therefore continue to consolidate PPA IIIb in our consolidated financial statements.

PPA Entities' Activities Summary

The table below shows the details of the three Investment Company VIEs that were active during the year ended December 31, 2020 and their cumulative activities from inception to the years indicated (dollars in thousands):

	PPA IIIa	PPA IV	PPA V
Overview:			
Maximum size of installation (in megawatts)	10	21	40
Installed size (in megawatts)	10	19	37
Term of power purchase agreements (in years)	15	15	15
First system installed	Feb-13	Sep-14	Jun-15
Last system installed	Jun-14	Mar-16	Dec-16
Income (loss) and tax benefits allocation to Equity Investor	99%	90%	99%
Cash allocation to Equity Investor	99%	90%	90%
Income (loss), tax and cash allocations to Equity Investor after the flip date	5%	No flip	No flip
Equity Investor [1]	US Bank	Exelon Corporation	Exelon Corporation
Put option date [2]	1st anniversary of flip point	N/A	N/A
Company cash contributions	$ 32,223	$ 11,669	$ 27,932
Company non-cash contributions [3]	$ 8,655	$ —	$ —
Equity Investor cash contributions	$ 36,967	$ 84,782	$ 227,344
Debt financing	$ 44,968	$ 99,000	$ 131,237
Activity as of December 31, 2020:			
Distributions to Equity Investor	$ 4,847	$ 8,852	$ 24,809
Debt repayment—principal	$ 10,513	$ 21,163	$ 16,475
Activity as of December 31, 2019:			
Distributions to Equity Investor	$ 4,803	$ 6,692	$ 70,591
Debt repayment—principal	$ 6,631	$ 18,012	$ 9,453
Activity as of December 31, 2018:			
Distributions to Equity Investor	$ 4,063	$ 4,568	$ 66,745
Debt repayment—principal	$ 4,431	$ 15,543	$ 5,780

[1] Investor name represents ultimate parent of subsidiary financing the project.

[2] Investor right on the certain date, upon giving us advance written notice, to sell the membership interests to us or resign or withdraw from the investment partnership.

[3] Non-cash contributions consisted of warrants that were issued by us to respective lenders to each PPA Entity, as required by such entity's credit agreements. The corresponding values are amortized using the effective interest method over the debt term.

The noncontrolling interests in PPA IIIa are redeemable as a result of the put option held by the Equity Investors as of December 31, 2020 and 2019. At December 31, 2020 and 2019, the carrying value of redeemable noncontrolling interests of $0.4 million and $0.4 million, respectively, exceeded the maximum redemption value.

PPA Entities' Aggregate Assets and Liabilities

Generally, the assets of an Operating Company owned by an Investment Company can be used to settle only the Operating Company obligations, and the Operating Company creditors do not have recourse to us. The following are the aggregate carrying values of our VIEs' assets and liabilities in our consolidated balance sheets, after eliminations of intercompany transactions and balances, including each of the PPA Entities in the PPA IIIa transaction, the PPA IV transaction, and the PPA V transaction (in thousands):

	December 31, 2020	December 31, 2019
Assets		
Current assets:		
Cash and cash equivalents	$ 1,421	$ 1,894
Restricted cash	4,698	2,244
Accounts receivable	4,420	4,194
Customer financing receivable	5,428	5,108
Prepaid expenses and other current assets	3,048	3,587
Total current assets	19,015	17,027
Property and equipment, net	252,020	275,481
Customer financing receivable, non-current	45,268	50,747
Restricted cash	15,320	15,045
Other long-term assets	37	607
Total assets	$ 331,660	$ 358,907
Liabilities		
Current liabilities:		
Accrued expenses and other current liabilities	$ 19,510	$ 1,391
Deferred revenue and customer deposits	662	662
Current portion of debt	120,846	12,155
Total current liabilities	141,018	14,208
Derivative liabilities	—	8,459
Deferred revenue	6,072	6,735
Long-term portion of debt	102,045	223,267
Other long-term liabilities	—	2,355
Total liabilities	$ 249,135	$ 255,024

As of January 1, 2020, the flip date, we are the majority owner shareholder in PPA IIIa receiving 95% of all cash distributions and profits and losses. In addition, we consolidated each PPA Entity as VIEs in the PPA IV transaction and PPA V transaction, as we remain the minority shareholder in each of these transactions but have determined that we are the primary beneficiary of these VIEs. These PPA Entities contain debt that is non-recourse to us and own Energy Server assets for which we do not have title.

We believe that by presenting assets and liabilities separate from the PPA Entities, we provide a better view of the true operations of our core business. The table below provides detail into the assets and liabilities of Bloom Energy separate from the PPA Entities. The table provides our stand-alone assets and liabilities, those of the PPA Entities combined, and our consolidated balances as of December 31, 2020 and 2019 (in thousands):

	December 31, 2020			December 31, 2019		
	Bloom Energy	PPA Entities	Consolidated	Bloom Energy	PPA Entities	Consolidated
Assets						
Current assets	$ 599,589	$ 19,015	$ 618,604	$ 455,680	$ 17,027	$ 472,707
Long-term assets	523,138	312,645	835,783	508,004	341,880	849,884
Total assets	$ 1,122,727	$ 331,660	$ 1,454,387	$ 963,684	$ 358,907	$ 1,322,591
Liabilities						
Current liabilities	$ 295,359	$ 20,172	$ 315,531	$ 234,328	$ 2,053	$ 236,381
Current portion of debt	—	120,846	120,846	325,428	12,155	337,583
Long-term liabilities	600,489	6,072	606,561	599,709	17,549	617,258
Long-term portion of debt	168,008	102,045	270,053	75,962	223,267	299,229
Total liabilities	$ 1,063,856	$ 249,135	$ 1,312,991	$ 1,235,427	$ 255,024	$ 1,490,451

14. Commitments and Contingencies

Commitments

Purchase Commitments with Suppliers and Contract Manufacturers - In order to reduce manufacturing lead-times and to ensure an adequate supply of inventories, we have agreements with our component suppliers and contract manufacturers to allow long lead-time component inventory procurement based on a rolling production forecast. We are contractually obligated to purchase long lead-time component inventory procured by certain manufacturers in accordance with our forecasts. We can generally give notice of order cancellation at least 90 days prior to the delivery date. However, we issue purchase orders to our component suppliers and third-party manufacturers that may not be cancellable. As of December 31, 2020 and 2019, we had no material open purchase orders with our component suppliers and third-party manufacturers that are not cancellable.

Portfolio Financings - Under the terms of the PPA I transaction, customers agree to purchase power from our Energy Servers at negotiated rates, generally for periods of up to 15 years. We are responsible for all operating costs necessary to maintain, monitor and repair the Energy Servers, including the fuel necessary to operate the systems under certain PPAs. The risk associated with the future market price of fuel purchase obligations is mitigated with commodity contract futures. For additional information, see Note 13 - *Portfolio Financings*.

We guarantee the performance of Energy Servers at certain levels of output and efficiency to its customers over the contractual term. The PPA Entities monitor the need for any accruals arising from such guaranties, which are calculated as the difference between committed and actual power output or between natural gas consumption at warranted efficiency levels and actual consumption, multiplied by the contractual rates with the customer. Amounts payable under these guaranties are accrued in periods when the guaranties are not met and are recorded in cost of service revenue in the consolidated statements of operations. We paid $7.4 million and $3.5 million for the years ended December 31, 2020 and 2019, respectively.

Letters of Credit - In June 2015, PPA V entered into a $131.2 million credit agreement to fund the purchase and installation of our Energy Servers. The lenders have commitments to a Letter of Credit ("LC") facility with the aggregate

principal amount of $6.2 million. The LC facility is to fund the debt service reserve account. The amount reserved under the LC as of December 31, 2020 was $5.2 million.

In 2019, pursuant to the PPA II upgrade of Energy Servers, we agreed to indemnify our financing partner for losses that may be incurred in the event of certain regulatory, legal or legislative development and established a cash-collateralized LC for this purpose. As of December 31, 2020, the balance of this cash-collateralized LC was $108.7 million, of which $20.3 million and $88.4 million is recognized as short-term and long-term restricted cash, respectively.

Pledged Funds - In 2019, pursuant to the PPA IIIb upgrade of Energy Servers, we have restricted cash of $20.0 million, which has been pledged for a seven-year period to secure our operations and maintenance obligations with respect to the totality of our obligations to the financier. All or a portion of such funds would be released if we meet certain credit rating and/or market capitalization milestones prior to the end of the pledge period. If we do not meet the required criteria within the first five-year period, the funds would still be released to us over the following two years as long as the Energy Servers continue to perform in compliance with our warranty obligations.

Contingencies

Indemnification Agreements - We enter into standard indemnification agreements with our customers and certain other business partners in the ordinary course of business. Our exposure under these agreements is unknown because it involves future claims that may be made against us but have not yet been made. To date, we have not paid any claims or been required to defend any action related to our indemnification obligations. However, we may record charges in the future as a result of these indemnification obligations.

Delaware Economic Development Authority - In March 2012, we entered into an agreement with the Delaware Economic Development Authority to provide a grant of $16.5 million to us as an incentive to establish a new manufacturing facility in Delaware and to provide employment for full time workers at the facility over a certain period of time. The grant contains two types of milestones that we must complete to retain the entire amount of the grant proceeds. The first milestone was to provide employment for 900 full time workers in Delaware by the end of the first recapture period of September 30, 2017. The second milestone was to pay these full-time workers a cumulative total of $108.0 million in compensation by September 30, 2017. There are two additional recapture periods at which time we must continue to employ 900 full time workers and the cumulative total compensation paid by us is required to be at least $324.0 million by September 30, 2023. As of December 31, 2020, we had 424 full time workers in Delaware and paid $152.2 million in cumulative compensation. As of December 31, 2019, we had 323 full time workers in Delaware and paid $120.1 million in cumulative compensation. We have so far received $12.0 million of the grant, which is contingent upon meeting the milestones through September 30, 2023. In the event that we do not meet the milestones, we may have to repay the Delaware Economic Development Authority, up to $2.0 million on September 30, 2021 and up to an additional $2.5 million on September 30, 2023. We repaid $1.5 million of the grant in 2017, and no additional amounts have been repaid since then. As of December 31, 2020, we have recorded $1.3 million in current liabilities and $9.2 million in other long-term liabilities for potential future repayments of this grant.

Investment Tax Credits - Our Energy Servers are eligible for federal ITCs that accrued to qualified property under Internal Revenue Code Section 48 when placed into service. However, the ITC program has operational criteria that extend for five years. If the energy property is disposed of or otherwise ceases to be qualified investment credit property before the close of the five-year recapture period is fulfilled, it could result in a partial reduction of the incentives. Energy Servers are purchased by the PPA Entities, other financial sponsors, or customers and, therefore, these parties bear the risk of repayment if the assets placed in service do not meet the ITC operational criteria in the future although in certain limited circumstances we do provide indemnification for such risk.

Legal Matters - We are involved in various legal proceedings that arise in the ordinary course of business. We review all legal matters at least quarterly and assess whether an accrual for loss contingencies needs to be recorded. We record an accrual for loss contingencies when management believes that it is both probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Legal matters are subject to uncertainties and are inherently unpredictable, so the actual liability in any such matters may be materially different from our estimates. If an unfavorable resolution were to occur, there exists the possibility of a material adverse impact on our consolidated financial condition, results of operations or cash flows for the period in which the resolution occurs or on future periods.

In July 2018, two former executives of Advanced Equities, Inc., Keith Daubenspeck and Dwight Badger, filed a statement of claim with the American Arbitration Association in Santa Clara, CA, against us, Kleiner Perkins, Caufield & Byers, LLC (“KPCB”), New Enterprise Associates, LLC (“NEA”) and affiliated entities of both KPCB and NEA seeking to compel arbitration and alleging a breach of a confidential agreement executed between the parties on June 27, 2014 (the

“Confidential Agreement”). On May 7, 2019, KPCB and NEA were dismissed with prejudice. On June 15, 2019, a second amended statement of claim was filed against us alleging securities fraud, fraudulent inducement, a breach of the Confidential Agreement, and violation of the California unfair competition law. On July 16, 2019, we filed our answering statement and affirmative defenses. On September 27, 2019, we filed a motion to dismiss the statement of claim. On March 24, 2020, the Tribunal denied our motion to dismiss in part, and ordered that claimant’s relief is limited to rescission of the Confidential Agreement or remedies consistent with rescission, and not expectation damages. On September 14, 2020, the Tribunal issued an interim order dismissing the Claimant’s remaining claims and requesting further briefing on the issue of prevailing party. On November 10, 2020, the Tribunal issued an order declaring Bloom the prevailing party and requesting a motion for award of attorney’s fees. We are waiting for the final order on the award of attorney fees.

On July 30, 2020, claimants notified us that they intend to file a complaint in the Northern District of California seeking to stay the arbitration, and disqualify the arbitration panel on procedural grounds. We believe claimants have no basis to bring this complaint and that doing so will breach the Confidential Agreement. Claimants have not yet filed such complaint.

In June 2019, Messrs. Daubenspeck and Badger filed a complaint against our Chief Executive Officer ("CEO") and our former Chief Financial Officer ("CFO") in the United States District Court for the Northern District of Illinois asserting nearly identical claims as those in the pending arbitration discussed above. The lawsuit was stayed pending the outcome of the arbitration. Once the arbitration was dismissed, on October 2, 2020, plaintiffs filed a motion to lift the stay and on October 20, 2020, over our objection, the motion was granted. We intend to file a motion to dismiss once we have received the final order from the arbitration regarding attorney’s fees. We believe the complaint to be without merit and that the issues were previously tried and dismissed in the arbitration. We are unable to estimate any range of reasonably possible losses.

In March 2019, the Lincolnshire Police Pension Fund filed a class action complaint in the Superior Court of the State of California, County of Santa Clara, against us, certain members of our senior management, certain of our directors and the underwriters in our July 25, 2018 IPO alleging violations under Sections 11 and 15 of the Securities Act of 1933, as amended (the "Securities Act"), for alleged misleading statements or omissions in our Registration Statement on Form S-1 filed with the SEC in connection with our IPO. Two related class action cases were subsequently filed in the Santa Clara County Superior Court against the same defendants containing the same allegations; Rodriquez vs Bloom Energy et al. was filed on April 22, 2019 and Evans vs Bloom Energy et al. was filed on May 7, 2019. These cases have been consolidated. Plaintiffs' consolidated amended complaint was filed with the court on September 12, 2019. On October 4, 2019, defendants moved to stay the lawsuit pending the federal district court action discussed below. On December 7, 2019, the Superior Court issued an order staying the action through resolution of the parallel federal litigation mentioned below. We believe the complaint to be without merit and we intend to defend this action vigorously. Given that the case is still in its early stages, we are unable to estimate any range of reasonably possible losses.

In May 2019, Elissa Roberts filed a class action complaint in the federal district court for the Northern District of California against us, certain members of our senior management team, and certain of our directors alleging violations under Section 11 and 15 of the Securities Act for alleged misleading statements or omissions in our Registration Statement on Form S-1 filed with the SEC in connection with our IPO. On September 3, 2019, James Hunt was appointed as lead plaintiff and Levi & Korsinsky was appointed as plaintiff’s counsel. On November 4, 2019, plaintiffs filed an amended complaint adding the underwriters in our initial public offering, claims under Sections 10b and 20a of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and extending the class period to September 16, 2019. On April 21, 2020, plaintiffs filed a second amended complaint adding claims under the Securities Act. The second amended complaint also adds allegations pertaining to the restatement and, as to claims under the Exchange Act, extends the class period through February 12, 2020. On July 1, 2020, we filed a motion to dismiss the second amended complaint and are waiting for a ruling on that motion. We believe the complaint to be without merit and we intend to defend this action vigorously. Because this action is in the early stages, we are unable to predict the outcome of this litigation at this time and accordingly are not able to estimate any range of reasonably possible losses.

In September 2019, we received a books and records demand from purported stockholder Dennis Jacob (“Jacob Demand”). The Jacob Demand cites allegations from the September 17, 2019 report prepared by admitted short seller Hindenburg Research. In November 2019, we received a substantially similar books and records demand from the same law firm on behalf of purported stockholder Michael Bolouri (“Bolouri Demand” and, together with the Jacob Demand, the “Demands”). On January 13, 2020, Messrs. Jacob and Bolouri filed a complaint in the Delaware Court of Chancery to enforce the Demands in the matter styled *Jacob, et al. v. Bloom Energy Corp.*, C.A. No. 2020-0023-JRS. On March 9, 2020, Messrs. Jacob and Bolouri filed an amended complaint in the Delaware Court of Chancery to add allegations regarding the restatement. The court held a one-day trial on December 7, 2020. On February 25, 2021, the Delaware Court of Chancery issued a decision rejecting the Bolouri Demand but granting in part the Jacob Demand allowing limited access to certain books and records pertaining to the allegations made in the Hindenburg Research Report. We are unable to estimate any range of reasonably possible losses.

In March 2020, Francisco Sanchez filed a class action complaint in Santa Clara County Superior Court against us ~~a~~lleging certain wage and hour violations under the California Labor Code and Industrial Welfare Commission Wage Orders and that we engaged in unfair business practices under the California Business and Professions Code, and in July 2020 he amended his complaint to add claims under the California Labor Code Private Attorneys General Act. On November 30, 2020, we filed a motion to compel arbitration and the motion was to be heard on March 5, 2021. On February 24, 2021, Mr.Sanchez dismissed the individual and class action claims without prejudice, leaving one cause of action for enforcement of the Private Attorney Generals Act . Given that the case is still in its early stages, we are unable to estimate any range of reasonably possible losses.

On April 2, 2020, we agreed with the U.S. Environmental Protection Agency ("EPA") on the terms of a Consent Agreement and Final Order. On May 12, 2020, an Administrative Law Judge of the Environmental Appeals Board of the EPA ratified the Consent Agreement between EPA and us, which was incorporated by reference into a Final Order to resolve EPA Docket No. RCRA-HQ-2020-501. Under the Consent Agreement, we paid a civil penalty of approximately $0.2 million and submitted to an audit for the time period from September 2015 to December 2019. Shipments of its desulfurization units made during that time period utilizing the Manufacturing Process Unit ("MPU") exemption will be subject to a penalty based on per ship penalty amounts agreed to with the EPA. We utilized the MPU until November of 2016 and $1.2 million was accrued during the first quarter of 2020. The audit was completed during the fourth quarter of 2020 and the penalty for shipments made was approximately $1.2 million. The EPA accepted the audited amount and payment was made by us during the fourth quarter of 2020. The matter is now closed.

15. Segment Information

Our chief operating decision makers ("CODMs"), our CEO and the CFO, review financial information presented on a consolidated basis for purposes of allocating resources and evaluating financial performance. The CODMs allocate resources and make operational decisions based on direct involvement with our operations and product development efforts. We are managed under a functionally-based organizational structure with the head of each function reporting to the Chief Executive Officer. The CODMs assess performance, including incentive compensation, based upon consolidated operations performance and financial results on a consolidated basis. As such, we have a single operating unit structure and are a single reporting segment.

16. Related Party Transactions

Our operations include the following related party transactions (in thousands):

	Years Ended December 31,		
	2020	2019	2018
Total revenue from related parties	$ 7,562	$ 228,100	$ 32,381
Interest expense to related parties	2,513	6,756	8,893
Consulting expenses to related parties [1] (included in general and administrative expense)	—	—	125

[1]As of July 2019, we no longer have a consultant considered to be a related party.

Bloom Energy Japan Limited

In May 2013, we entered into a joint venture with Softbank Corp., which is accounted for as an equity method investment. Under this arrangement, we sell Energy Servers and provide maintenance services to the joint venture. For the years ended December 31, 2020 and 2019, we recognized related party total revenue of $3.4 million and $4.2 million, respectively. Accounts receivable from this joint venture was $2.4 million as of December 31, 2020 and 2019.

SK Engineering & Construction Co., Ltd Joint Venture

In September 2019, we entered into a joint venture agreement with SK E&C to establish a light-assembly facility in the Republic of Korea for sales of certain portions of our Energy Server for the stationary utility and commercial and industrial market in the Republic of Korea. The joint venture is majority controlled and managed by us and is accounted for as a consolidated subsidiary. For the year ended December 31, 2020, we recognized related party total revenue of $4.2 million and we had no outstanding accounts receivable from this joint venture as of December 31, 2020.

Debt to Related Parties

We had no debt or convertible notes from investors considered to be related parties as of December 31, 2020.

The following is a summary of our debt and convertible notes from investors considered to be related parties as of December 31, 2019 (in thousands):

	Unpaid Principal Balance	Net Carrying Value		
		Current	Long-Term	Total
Recourse debt from related parties:				
10% Convertible Promissory Notes due December 2021 from related parties	$ 20,801	$ 20,801	$ —	$ 20,801
Non-recourse debt from related parties:				
7.5% Term Loan due September 2028 from related parties	38,337	3,882	31,088	34,970
Total debt from related parties	$ 59,138	$ 24,683	$ 31,088	$ 55,771

In November 2019, one related-party note holder exchanged $6.9 million of their 10% Convertible Notes at the conversion price of $11.25 per share into 616,302 shares of Class A common stock. On March 31, 2020, we issued $30.0 million of new 10% Convertible Notes to two related-party note holders. In May 2020, the 7.5% term loan note holder ceased to be considered a related party. We repaid $2.1 million and $2.2 million of the non-recourse 7.5% term loan principal balance in the year ended December 31, 2020 and 2019, respectively, and we paid $0.7 million and $3.0 million of interest in the year ended December 31, 2020 and 2019, respectively. In August 2020, NEA, Foris Ventures, LLC, and KPCB converted their notes of $33.9 million, $10.0 million and $6.9 million, plus accrued and unpaid interest into 4.2 million, 1.3 million and 0.9 million shares of Class B common stock respectively. All of the noteholders subsequently converted their shares into Class A common stock during August and September 2020. The unamortized premium of $2.3 million was reclassified to additional paid in capital. See Note 7 - *Outstanding Loans and Security Agreements* for additional information on our debt facilities.

17. Leases

Facilities, Office Buildings, and Vehicles

We lease most of our facilities, office buildings and vehicles under operating leases that expire at various dates through July 2029. We lease various manufacturing facilities in Sunnyvale, Fremont, and Mountain View, California. Our lease for our Sunnyvale manufacturing facilities was entered into in April 2005 and expired in December 2020. In January 2021, we extended this lease to December 2023. In June 2020, we signed a lease in Fremont that will expire in 2027 to replace the manufacturing facility in Sunnyvale. Our current lease for our manufacturing facilities at Mountain View was entered into in December 2011, and expired in December 2019, but it extended on a month-to-month basis. The existing plants together comprise approximately 370,601 square feet of space. We lease additional office space as field offices in the United States and around the world including in India, the Republic of Korea, China, and Taiwan.

Certain of these arrangements have free rent periods or escalating rent payment provisions. We recognize lease cost under such arrangements on a straight-line basis over the life of the leases. During the year ended December 31, 2020, rent expense for all occupied facilities was $9.9 million. During the years ended December 31, 2019 and 2018, prior to our adoption of ASC 842, rent expense for all occupied facilities was $7.8 million and $6.3 million, respectively.

At inception of the contract, we assess whether a contract is a lease based on whether the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Lease classification, measurement, and recognition are determined at lease commencement, which is the date the underlying asset is available for use by us. The accounting classification of a lease is based on whether the arrangement is effectively a financed purchase of the underlying asset (financing lease) or not (operating lease). Our operating leases are comprised primarily of leases for facilities, office buildings, and vehicles, and our financing leases are comprised primarily of vehicles.

Our leases have remaining lease terms ranging from less than 1 year to 9 years, some of which include options to extend the leases. The lease term is the non-cancelable period of the lease and includes options to extend or terminate the lease when it is reasonably certain that an option will be exercised.

Lease liabilities are measured at the lease commencement date as the present value of future lease payments. Lease right-of-use assets are measured as the lease liability plus initial direct costs and prepaid lease payments less lease incentives. In measuring the present value of the future lease payments, the discount rate for the lease is the rate implicit in the lease unless that rate cannot be readily determined. In that case, the lessee is required to use its incremental borrowing rate. In computing our lease liabilities, we use the incremental borrowing rate based on the information available on the commencement date using an estimate of company-specific rate in the United States on a collateralized basis and consistent with the lease term for each lease. The lease term is the non-cancelable period of the lease and includes options to extend or terminate the lease when it is reasonably certain that an option will be exercised.

Operating and financing lease right-of-use assets and lease liabilities for facilities, office buildings, and vehicles as of December 31, 2020 were as follows (in thousands):

	December 31, 2020
Assets:	
Operating lease right-of-use assets, net [1, 2]	$ 35,621
Financing lease right-of-use assets, net [3, 4]	334
Total	$ 35,955
Liabilities:	
Current:	
Operating lease liabilities	$ 7,899
Financing lease liabilities [5]	74
Total current lease liabilities	7,973
Non-current:	
Operating lease liabilities	41,849
Financing lease liabilities [6]	267
Total non-current lease liabilities	42,116
Total lease liabilities	$ 50,089

[1] At December 31, 2020, these assets primarily include leases for facilities, office buildings, and vehicles.

[2] Net of accumulated amortization.

[3] At December 31, 2020, these assets primarily include leases for vehicles.

[4] Included in property, plant and equipment, net, in the consolidated balance sheets, net of accumulated amortization.

[5] Included in accrued expenses and other current liabilities in the consolidated balance sheets.

[6] Included in other long-term liabilities in the consolidated balance sheets.

The components of our facilities, office buildings, and vehicles' lease costs for the year ended December 31, 2020 were as follows (in thousands):

	December 31, 2020
Operating lease costs	$ 9,804
Financing lease costs:	
Amortization of financing lease right-of-use assets	51
Interest expense for financing lease liabilities	16
Total financing lease costs	67
Short-term lease costs	613
Total lease costs	$ 10,484

Weighted average remaining lease terms and discount rates for our facilities, office buildings, and vehicles as of December 31, 2020 were as follows:

	December 31, 2020
Remaining lease term (years):	
Operating leases	6.7 years
Finance leases	4.2 years
Discount rate:	
Operating leases	8.7 %
Finance leases	7.0 %

Future lease payments under lease agreements for our facilities, office buildings, and vehicles as of December 31, 2020, were as follows (in thousands):

	Operating Leases	Finance Leases
2021	$ 11,388	$ 95
2022	8,211	95
2023	8,292	90
2024	8,472	84
2025	8,330	28
Thereafter	19,863	—
Total minimum lease payments	64,556	392
Less: amounts representing interest or imputed interest	(14,808)	(51)
Present value of lease liabilities	$ 49,748	$ 341

As of December 31, 2020, we had additional operating leases related to facilities that will commence during 2021 with future lease payments of $5.2 million. These operating leases will commence in fiscal year 2021 with lease terms of up to 3 years.

Prior to adoption of ASC 842, at December 31, 2019, future minimum lease payments under operating leases were as follows (in thousands):

	Operating Leases
2020	$ 7,250
2021	5,495
2022	4,168
2023	4,230
2024	4,357
Thereafter	17,913
Total lease payments	$ 43,413

Managed Services and Portfolio Financings Through PPA Entities

As described above under *Accounting Guidance Implemented in 2020*, certain of our customers enter into Managed Services or Portfolio Financings through a PPA Entity to finance their lease of Bloom Energy Servers. Prior to the adoption of ASC 842, such arrangements with customers that qualified as leases were classified as either sales-type leases or operating leases. For all pre-existing Managed Services arrangements or Portfolio Financings through PPA Entities, we have carried over the accounting classifications for those transactions and continue to account for such transactions as either sales-type leases or operating leases under ASC 842. Customer arrangements under Managed Services and Portfolio Financings through PPA Entities do not contain a lease under ASC 842 and are accounted for under ASC 606 as revenue arrangements.

Lease agreements under our Managed Services arrangements and Portfolio Financings through PPA Entities include non-cancellable lease terms, during which terms the majority of our investment in Energy Servers under lease are typically recovered. The Company mitigates remaining residual value risk of its Energy Servers through its provision of maintenance on the Energy Servers during the lease term and through insurance whose proceeds are payable in the event of theft, loss, damage, or destruction.

Managed Services Financings - Our Managed Services arrangements with financiers are accounted for as financing transactions. Payments received from the financier are recognized as financing obligations in our consolidated balance sheets. These financing obligations are included in each agreements' contract value and are recognized as short-term or long-term liabilities based on the estimated payment dates. The lease agreements expire on various dates through 2034 and there was no recorded rent expense for the year ended December 31, 2020.

At December 31, 2020, future lease payments under the Managed Services financing obligations and the sublease payments from the customers under the related operating leases were as follows (in thousands):

	Financing Obligations	Sublease Payments[1]
2021	$ 40,589	$ (40,589)
2022	41,584	(41,584)
2023	42,526	(42,526)
2024	40,429	(40,429)
2025	39,379	(39,379)
Thereafter	87,623	(87,623)
Total lease payments	292,130	$ (292,130)
Less: imputed interest	(172,860)	
Total lease obligations	119,270	
Less: current obligations	(12,745)	
Long-term lease obligations	$ 106,525	

[1] Sublease Payments primarily represents the fees received by the bank from our customer for the electricity generated by our Energy Servers leased under our Managed Services and other similar arrangements, which also pay down our financing obligation to the bank.

The long-term financing obligations, as reflected in our Consolidated Balance Sheets, were $460.0 million and $446.2 million as of December 31, 2020 and 2019, respectively. The difference between these obligations and the principal obligations in the table above will be offset against the carrying value of the related Energy Servers at the end of the lease and the remainder recognized as a gain at that point.

Portfolio Financings through PPA Entities - Customer arrangements entered into prior to January 1, 2020 under Portfolio Financing arrangements through a PPA Entity that qualified as leases are accounted for as either sales-type leases or operating leases. We have not entered into any new PPAs with customers under such arrangements during 2020.

The components of our aggregate net investment in sales-type leases under our Portfolio Financings through PPA entities consisted of the following (in thousands):

	December 31, 2020
Lease payment receivables, net[1]	$ 49,806
Estimated residual value of leased assets (unguaranteed)	890
Net investment in sales-type leases	50,696
Less: current portion	(5,428)
Non-current portion of net investment in sales-type leases	$ 45,268

[1] Net of current estimated credit losses of approximately $0.1 million as of December 31, 2020.

As of December 31, 2020, the future scheduled customer payments from sales-type leases were as follows (in thousands):

	Future minimum lease payments
2021	$ 5,796
2022	6,110
2023	6,435
2024	6,797
2025	7,125
Thereafter	19,176
Total undiscounted cash flows	51,439
Less: imputed interest	(1,582)
Present value of lease payments[1]	$ 49,857

[1] Amount comprises a current and long-term portion of lease receivables of $5.4 million and $44.4 million, respectively, after giving effect to a $0.1 million current expected credit loss reserve on the long-term portion, which is reflected as a component of the net investment in sales-type leases presented in our statement of financial position as customer financing receivables.

As of December 31, 2019, the components of investment in sales-type financing leases consisted of the following (in thousands):

		December 31, 2019
Total minimum lease payments to be received	$	76,886
Less: Amounts representing estimated executory costs		(19,931)
Net present value of minimum lease payments to be received		56,955
Estimated residual value of leased assets		890
Less: Unearned income		(1,990)
Net investment in sales-type financing leases		55,855
Less: Current portion		(5,108)
Non-current portion of net investment in sales-type leases	$	50,747

As of December 31, 2019, the future scheduled customer payments from sales-type financing leases were as follows (in thousands):

	2020	2021	2022	2023	2024	Thereafter
Future minimum lease payments, less interest	$ 5,108	$ 5,428	$ 5,784	$ 6,155	$ 6,567	$ 25,923

Future estimated operating lease payments we expect to receive from Portfolio Financing arrangements through PPA Entities as of December 31, 2020, were as follows (in thousands):

		Operating Leases
2021	$	43,176
2022		44,258
2023		45,345
2024		46,590
2025		47,612
Thereafter		264,207
Total lease payments	$	491,188

18. Subsequent Events

There have been no subsequent events that occurred during the period subsequent to the date of these consolidated financial statements that would require adjustment to our disclosure in the consolidated financial statements as presented.

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 maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports that we file or submit under the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in SEC rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer (our principal executive officer) and Chief Financial Officer (our principal financial officer) as appropriate, to allow for timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of December 31, 2020. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that as of December 31, 2020, our disclosure controls and procedures were effective.

Remediation of Previously Disclosed Material Weakness

In Part II, Item 9A, *Controls and Procedures* of our Annual report on Form 10-K for the year ended December 31, 2019, we disclosed a material weakness whereby we did not design and maintain an effective control environment with a sufficient complement of resources with an appropriate level of accounting knowledge, expertise and training to evaluate the accounting implications of complex or non-routine transactions commensurate with our financial reporting requirements.

During the year ended December 31, 2020, our management, with the oversight of the Audit Committee of our Board of Directors, engaged in efforts to remediate the material weakness identified and previously disclosed. We completed these remediation measures in the quarter ended December 31, 2020, including testing of the design and concluding on the effectiveness of all impacted controls.

The remediation measures included implementing, under the direction of our Chief Financial Officer, enhanced review procedures and documentation standards to monitor and review all complex and non-routine transactions. Our management took further action by completing a robust review of all internal controls to strengthen documentation, validate processes and communicate accountability for performance of internal control responsibilities. Further, we engaged outside service providers to assist in evaluating and documenting our complex and non-routine routine transactions.

Management has determined, through testing of our internal controls, that the controls related to the remediation actions discussed above were effectively designed and operated effectively for a sufficient period of time to enable us to conclude that the material weakness has been remediated as of December 31, 2020.

Inherent Limitations on Effectiveness of Internal Controls

Our management, including the CEO and CFO, does not expect that our disclosure controls or our internal controls over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, have been detected. The design of any system of controls is based in part on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of the effectiveness of controls to future periods are subject to risks. Over time, controls may become inadequate because of changes in business conditions or deterioration in the degree of compliance with policies or procedures.

Changes in Internal Control over Financial Reporting

Other than the remediation of the previously disclosed material weakness as described above, there were no changes in our internal controls over financial reporting during the fourth quarter of 2020, which were identified in connection with management's evaluation required by paragraph (d) of Rules 13a-15 and 15d-15 under the Exchange Act, that have materially affected, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Our management, with the participation of our CEO and CFO, is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d15(f) under the Exchange Act) to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of consolidated financial statements for external reporting purposes in accordance with U.S. GAAP.

Management assessed the effectiveness of our internal control over financial reporting as of December 31, 2020, the end of our fiscal year. Management based its assessment on the framework established in the 2013 *Internal Control - Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission ("2013 COSO framework"). Management's assessment included evaluation of elements such as the design and operating effectiveness of key financial reporting controls, process documentation, accounting policies, and our overall control environment. This assessment is supported by testing and monitoring performed by our internal audit and finance personnel utilizing the 2013 COSO framework.

Based on our assessment, management has concluded that our internal control over financial reporting was effective as of the end of fiscal 2020 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consoldiated financial statements for external reporting purposes in accordance with U.S. GAAP.

The effectiveness of our internal control over financial reporting as of the end of fiscal 2020 has been audited by Deloitte & Touche, LLP, an independent registered public accounting firm, as stated in their report, which is included elsewhere herein.

ITEM 9B - OTHER INFORMATION

None.

Part III

ITEM 10 - DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this Item 10 of Annual Report on Form 10-K is incorporated by reference herein to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the year ended December 31, 2020.

ITEM 11 - EXECUTIVE COMPENSATION

The information required by this Item 11 of Annual Report on Form 10-K is incorporated by reference herein to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the year ended December 31, 2020.

ITEM 12 - SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item 12 of Annual Report on Form 10-K is incorporated by reference herein to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the year ended December 31, 2020.

ITEM 13 - CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item 13 of Annual Report on Form 10-K is incorporated by reference herein to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the year ended December 31, 2020.

ITEM 14 - PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item 14 of Annual Report on Form 10-K is incorporated by reference herein to our Proxy Statement for the 2021 Annual Meeting of Stockholders to be filed with the SEC within 120 days of the year ended December 31, 2020.

Part IV

sITEM 15 - EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

1. Financial Statements

See "Index to Consolidated Financial Statements and Supplementary Data" within the Consolidated Financial Statements herein.

2. Financial Statement Schedules

All financial statement schedules have been omitted since the required information was not applicable or was not present in amounts sufficient to require submission of the schedules, or because the information required is included in the consolidated financial statements or the accompanying notes.

3. Exhibits

See the following Index to Exhibits.

Index to Exhibits

The exhibits listed below are filed or incorporated by reference as part of this Annual Report on Form 10-K.

			Incorporated by Reference			
Exhibit Number		**Description**	**Form**	**File No.**	**Exhibit**	**Filing Date**
3.1		Restated Certificate of Incorporation	10-Q	001-38598	3.1	9/7/2018
3.2		Amended and Restated Bylaws, effective November 5, 2020	8-K	001-38598	3.2	11/12/2020
4.1		Form of Common Stock Certificate of the Registrant	S-1/A	333-225571	4.1	7/9/2018
4.2		Indenture by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as trustee, dated as of December 15, 2015	S-1	333-225571	4.4	6/12/2018
4.3		Form of 5% Convertible Senior Secured PIK Note due 2020 (included in Exhibit 4.2 hereto)	S-1	333-225571	4.4	6/12/2018
4.4		Security Agreement by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as collateral agent, dated as of December 15, 2015	S-1	333-225571	4.6	6/12/2018
4.5		Plain English Warrant Agreement by and between Triplepoint Capital LLC, a Delaware limited liability company, and the Registrant, dated December 31, 2010	S-1	333-225571	4.9	6/12/2018
4.6		Amended and Restated Plain English Warrant Agreement by and between Triplepoint Capital LLC, a Delaware limited liability company, and the Registrant, dated December 15, 2011	S-1	333-225571	4.10	6/12/2018
4.7		Agreement and Warrant to Purchase Series F Preferred Stock by and between PE12GVVC (US Direct) Ltd. and the Registrant, dated July 1, 2014	S-1	333-225571	4.11	6/12/2018
4.8		Agreement and Warrant to Purchase Series F Preferred Stock by and between PE12PXVC (US Direct) Ltd. and the Registrant, dated July 1, 2014	S-1	333-225571	4.12	6/12/2018

4.9		Warrant to Purchase Preferred Stock by and between Atel Ventures, Inc., in its capacity as Trustee for its assignee affiliated funds, and the Registrant, dated December 31, 2012	S-1	333-225571	4.13	6/12/2018
4.10		Plain English Warrant Agreement by and between Triplepoint Capital LLC, a Delaware limited liability company, and the Registrant, dated September 27, 2012	S-1	333-225571	4.14	6/12/2018
4.12		First Supplemental Indenture by and among Registrant, certain guarantor party thereto and U.S. Bank National Association, as trustee, dated as of September 20, 2016	S-1	333-225571	4.19	6/12/2018
4.13		Indenture by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as trustee, dated as of June 29, 2017	S-1	333-225571	4.20	6/12/2018
4.14		Form of 10% Senior Secured Note due 2024 (included in Exhibit 4.13 hereto)	S-1	333-225571	4.20	6/12/2018
4.15		Security Agreement by and among the Registrant, U.S. Bank National Association, as trustee and U.S. Bank National Association, as collateral agent, dated as of June 29, 2017	S-1	333-225571	4.22	6/12/2018
4.16		Second Supplemental Indenture, Omnibus Amendment to Notes and Limited Waiver by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as trustee, dated as of June 29, 2017	S-1	333-225571	4.24	6/12/2018
4.17		Third Supplemental Indenture and Omnibus Amendment to Notes by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as trustee, dated as of January 18, 2018	S-1	333-225571	4.25	6/12/2018
4.18		Form of Holder Voting Agreement, between KR Sridhar and certain parties thereto	S-1/A	333-225571	4.26	7/9/2018
4.19		Amended and Restated Subordinated Secured Convertible Promissory Note by and between the Registrant and Constellation NewEnergy, Inc., dated as of January 18, 2018	S-1	333-225571	4.28	6/12/2018
4.20		Description of Company's securities registered pursuant to Section 12 of the Securities Exchange Act of 1934, as amended				Filed herewith
4.21		Amended and Restated Indenture by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as trustee, dated as of April 20, 2020	10-Q	001-38598	4.1	5/11/2020
4.22		Form of 10% Convertible Senior Secured Note due 2021	10-Q	001-38598	4.2	5/11/2020
4.23		Third Amendment to Security Agreement by and among the Registrant, certain guarantors party thereto and U.S. Bank National Association, as collateral agent, dated as of April 20, 2020	10-Q	001-38598	4.3	5/11/2020
4.24		Form of Indenture for Senior Secured Notes due 2027	10-Q	001-38598	4.4	5/11/2020
4.25		Form of 10.25% Senior Secured Notes due 2027	10-Q	001-38598	4.5	5/11/2020
4.26		Form of Security Agreement for Senior Secured Notes due 2027	10-Q	001-38598	4.6	5/11/2020
4.27		Amended and Restated Subordinated Secured Convertible Note Modification Agreement by and between the Registrant and Constellation NewEnergy, Inc., dated as of March 31, 2020	10-Q	001-38598	4.7	5/11/2020

4.28		Indenture, dated as of August 11, 2020, between Bloom Energy Corporation and U.S. Bank National Association, as trustee	8-K	001-38598	4.1	8/11/2020
4.29		Form of certificate representing the 2.50% Green Convertible Senior Notes due 2025 (included as Exhibit A to Exhibit 4.28 hereto)	8-K	001-38598	4.2	8/11/2020
10.1	^	2002 Equity Incentive Plan and form of agreements used thereunder	S-1	333-225571	10.2	6/12/2018
10.2	^	2012 Equity Incentive Plan and form of agreements used thereunder	S-1	333-225571	10.3	6/12/2018
10.3	^	2018 Equity Incentive Plan and form of agreements used thereunder	S-1/A	333-225571	10.4	7/9/2018
10.4	^	2018 Employee Stock Purchase Plan and form of agreements used thereunder	S-1/A	333-225571	10.5	7/9/2018
10.5		Lease, dated as of December 23, 2020, between Google LLC and Registrant				Filed herewith
10.6		Ground Lease by and between 1743 Holdings, LLC and the Registrant dated as of March 2012	S-1	333-225571	10.8	6/12/2018
10.07		Net Lease Agreement, dated as of April 4, 2018, by and between the Registrant and 237 North First Street Holdings, LLC	S-1	333-225571	10.29	6/12/2018
10.08	^	Consulting Agreement between the Registrant and Colin L. Powell, dated as of January 29, 2009	S-1	333-225571	10.31	6/12/2018
10.09	^	Amendment to Consulting Agreement between the Registrant and Colin L. Powell, dated as of July 31, 2019	10-K	001-38598	10.14	3/31/2020
10.10		Grant Agreement by and between the Delaware Economic Development Authority and the Registrant, dated March 1, 2012	S-1	333-225571	99.1	6/12/2018
10.11	^	Form of Indemnification Agreement	10-Q	001-38598	10.1	9/7/2018
10.12	^	Form of Offer Letter	10-K	001-38598	10.27	3/22/2019
10.13	†	Preferred Distributor Agreement by and between Registrant and SK Engineering & Construction Co., Ltd dated November 14, 2018	10-K	001-38598	10.28	3/22/2019
10.14	†	Third Amended and Restated Purchase, Use and Maintenance Agreement between Registrant and 2016 ESA Project Company, LLC, dated as of September 26, 2018	10-K	001-38598	10.29	3/22/2019
10.15		Amendment No. 1 to Third Amended and Restated Purchase, Use and Maintenance Agreement by and between Registrant and 2016 ESA Project Company, LLC dated as of September 28, 2018	10-K	001-38598	10.30	3/22/2019
10.16		Amendment No. 2 to Third Amended and Restated Purchase, Use and Maintenance Agreement by and between Registrant and 2016 ESA Project Company, LLC dated as of December 19, 2018	10-K	001-38598	10.31	3/22/2019
10.17	x	Equity Capital Contribution Agreement between the Company, SP Diamond State Class B Holdings, LLC, Diamond State Generation Partners, LLC, and Diamond State Generation Holdings, LLC, dated June 14, 2019	10-Q	001-38598	10.1	8/14/2019
10.18	x	Third Amended and Restated Limited Liability Company Agreement of Diamond State Generation Partners LLC dated June 14, 2019	10-Q	001-38598	10.2	8/14/2019
10.19	x	Fuel Cell System Supply and Installation Agreement between the Company and Diamond State Generation Partners LLC, dated June 14, 2019	10-Q	001-38598	10.3	8/14/2019

10.20	x	Amended and Restated Master Operations and Maintenance Agreement between the Company and Diamond State Generation Partners LLC, dated June 14, 2019	10-Q	001-38598	10.4	8/14/2019
10.21	x	Repurchase Agreement between the Company and Diamond State Generation Partners LLC, dated June 14, 2019	10-Q	001-38598	10.5	8/14/2019
10.22	x	Third Amended and Restated Limited Liability Company Agreement of Diamond State Generation Holdings, LLC dated June 14, 2019	10-Q	001-38598	10.6	8/14/2019
10.23	x	Annex 1 (Definitions) to Equity Capital Contribution Agreement (Ex 10.1) and Limited Liability Agreements (Exs. 10.2 and 10.6)	10-Q	001-38598	10.7	8/14/2019
10.24	x	Purchase, Use and Maintenance Agreement between the Company and 2018 ESA Project Company, LLC dated June 28, 2019	10-Q	001-38598	10.8	8/14/2019
10.25	x	Annexes to Purchase, Use and Maintenance Agreement between the Company and 2018 ESA Project Company, LLC dated June 28, 2019	10-Q	001-38598	10.9	8/14/2019
10.26	^	Bloom Energy Corporation 2021 Deferred Compensation Plan				Filed herewith
10.27	x	Fourth Amended and Restated Limited Liability Company Agreement of Diamond State Generation Partners, LLC dated as of December 23, 2019	10-K	001-38598	10.32	3/31/2020
10.28	x	Fuel Cell System Supply and Installation Agreement between Bloom Energy Corporation and Diamond State Generation Partners, LLC dated as of December 23, 2019	10-K	001-38598	10.33	3/31/2020
10.29	x	Second Amended and Restated Administrative Services Agreement by and between Bloom Energy Corporation and Diamond State Generation Partners, LLC dated as of December 23, 2019	10-K	001-38598	10.34	3/31/2020
10.30	x	Equity Capital Contribution Agreement with respect to Diamond State Generation Partners, LLC by and among Bloom Energy Corporation, Diamond State Generation Holdings, LLC, SP Diamond State Class B Holdings LLC, Assured Guaranty Municipal Corp. and Diamond State Generation Partners LLC, dated as of December 23, 2019	10-K	001-38598	10.35	3/31/2020
10.31	x	Second Amended and Restated Master Operations and Maintenance Agreement between Bloom Energy Corporation as Operator and Diamond State Generation Partners, LLC dated as of December 23, 2019	10-K	001-38598	10.36	3/31/2020
10.32		First Amendment to Repurchase Agreement between the Company and Diamond State Generation Partners LLC, dated June 14, 2019	10-K	001-38598	10.37	3/31/2020
10.33	^	Offer Letter between the Company and Chris White, dated April 16, 2019	10-K	001-38598	10.38	3/31/2020
10.34	^	Change of Control and Severance Agreement between the Company and Chris White dated April 16, 2019	10-K	001-38598	10.39	3/31/2020
10.35	^	Offer Letter between the Company and Hari Pillai dated December 3, 2018.	10-K	001-38598	10.40	3/31/2020
10.36	^	Change of Control and Severance Agreement between the Company and Hari Pillai dated December 3, 2018.	10-K	001-38598	10.41	3/31/2020
10.37	^	Offer Letter between the Company and Gregory Cameron, dated March 20, 2020	8-K	001-38598	10.1	4/2/2020

10.38		Convertible Note Purchase Agreement among the Registrant, Rye Creek, LLC, and the purchasers listed therein, dated as of March 31, 2020	10-Q	001-38598	10.1	5/11/20
10.39		Support Agreement among KR Sridhar and the investors named therein, dated as of March 31, 2020	10-Q	001-38598	10.2	5/11/20
10.40		Note Purchase Agreement among the Registrant, the guarantor named therein, and the purchasers listed therein, dated as of March 30, 2020	10-Q	001-38598	10.3	5/11/20
10.41		Amendment Support Agreement by and among the Registrant and the investors named therein, dated as of March 31, 2020	10-Q	001-38598	10.4	5/11/20
10.42		Lease Agreement, dated as of June 10, 2020, by and between the Registrant and DPIF2 CA 20 Christy Street, LLC	10-Q/A	001-38598	10.1	8/5/2020
10.43	x	Amended and Restated Purchase, Use and Maintenance Agreement between the Company and 2018 ESA Project Company, LLC dated June 30, 2020	10-Q/A	001-38598	10.2	8/5/2020
10.44	†	Preferred Distributor Agreement by and between Registrant and SK D&D Co., Ltd dated January 30, 2019				Filed herewith
10.45	^	Letter Agreement between the Registrant and Randy Furr dated March 31, 2020				Filed herewith
16.1		Letter dated September 4, 2020 from PricewaterhouseCoopers LLP to the Securities and Exchange Commission	8-K	001-38598	16.1	9/4/2020
21.1		List of Subsidiaries				Filed herewith
23.1		Consent of Independent Registered Public Accounting Firm, PricewaterhouseCoopers LLP				Filed herewith
23.2		Consent of Independent Registered Public Accounting Firm, Deloitte & Touche LLP				Filed herewith
31.1		Certification of Chief Executive Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities and Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith
31.2		Certification of Chief Financial Officer pursuant to Rule 13a-14(a) and 15d-14(a) of the Securities and Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				Filed herewith
32.1	**	Certification of the 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				Filed herewith
101.INS		XBRL Instance Document- the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document				Filed herewith
101.SCH		Inline XBRL Taxonomy Extension Schema Document				Filed herewith
101.CAL		Inline XBRL Taxonomy Extension Calculation Linkbase Document				Filed herewith
101.DEF		Inline XBRL Taxonomy Extension Definition Linkbase Document				Filed herewith
101.LAB		Inline XBRL Taxonomy Extension Label Linkbase Document				Filed herewith

101.PRE		Inline XBRL Taxonomy Extension Presentation Linkbase Document				Filed herewith
104		Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)				

^ Management contracts or compensation plans or arrangements in which directors or executive officers are eligible to participate.

** The certifications furnished in Exhibit 32.1 hereto are deemed to accompany this Annual Report on Form 10-K and will not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liability of that section, nor shall it be deemed incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended.

† Confidential treatment requested with respect to portions of this exhibit.

x Portions of this exhibit are redacted as permitted under Regulation S-K, Rule 601.

ITEM 16 - FORM 10-K SUMMARY

None.

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.

BLOOM ENERGY CORPORATION

Date: February 26, 2021

By: /s/ KR Sridhar
KR Sridhar
Founder, President, Chief Executive Officer and Director
(Principal Executive Officer)

Date: February 26, 2021

By: /s/ Gregory Cameron
Gregory Cameron
Executive Vice President and
Chief Financial Officer
(Principal Financial and Accounting Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints KR Sridhar and Gregory Cameron, and each of them individually, as his or her attorney-in-fact, each with full power of substitution, for him or her 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 exhibits thereto and all other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact, or his substitute or substitutes, may 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 by the following persons on behalf of the registrant in the capacities and on the dates indicated.

Date:	February 26, 2021	/s/ KR Sridhar KR Sridhar Founder, President, Chief Executive Officer and Director (Principal Executive Officer)
Date:	February 26, 2021	/s/ Gregory Cameron Gregory Cameron Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)
Date:	February 26, 2021	/s/ Michael Boskin Michael Boskin Director
Date:	February 26, 2021	/s/ Mary K. Bush Mary K. Bush Director
Date:	February 26, 2021	/s/ John T. Chambers John T. Chambers Director
Date:	February 26, 2021	/s/ L. John Doerr L. John Doerr Director
Date:	February 26, 2021	/s/ Jeffrey Immelt Jeffrey Immelt Director
Date:	February 26, 2021	/s/ Colin L. Powell Colin L. Powell Director
Date:	February 26, 2021	/s/ Scott Sandell Scott Sandell Director
Date:	February 26, 2021	/s/ Eddy Zervigon Eddy Zervigon Director

Exhibit 4.20

DESCRIPTION OF REGISTRANT'S SECURITIES REGISTERED UNDER SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

The following brief description of the capital stock of Bloom Energy Corporation ("us", "our", "we", or the "Company") is a summary. This summary is not complete and is subject to and qualified in its entirety by reference to the complete text of our Restated Certificate of Incorporation ("Certificate of Incorporation") and our Amended and Restated By-Laws ("By-Laws"). We encourage you to read the Certificate of Incorporation and Amended and Restated By-Laws carefully.

General

Our authorized capital stock consists of 600,000,000 shares of Class A common stock, $0.0001 par value per share, 600,000,000 shares of Class B common stock, $0.0001 par value per share, and 10,000,000 shares of undesignated preferred stock, $0.0001 par value per share.

Class A Common Stock and Class B Common Stock

Dividend Rights

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

Voting Rights

Holders of our Class A common stock are entitled to one vote for each share of Class A common stock held on all matters submitted to a vote of stockholders and holders of our Class B common stock are entitled to ten votes for each share of Class B common stock held on all matters submitted to a vote of stockholders. Holders of shares of our Class A common stock and Class B common stock vote together as a single class on all matters (including the election of directors) submitted to a vote of stockholders, unless otherwise required by Delaware law or our restated Certificate of Incorporation. Delaware law could require either holders of our Class A common stock or Class B common stock to vote separately as a single class in the following circumstances:

- if we were to seek to amend our restated Certificate of Incorporation to increase or decrease the par value of a class of our capital stock, then that class would be required to vote separately to approve the proposed amendment; and

- if we were to seek to amend our restated Certificate of Incorporation in a manner that alters or changes the powers, preferences, or special rights of a class of our capital stock in a manner that affected its holders adversely, then that class would be required to vote separately to approve the proposed amendment.

Our restated Certificate of Incorporation does not provide for cumulative voting for the election of directors. As a result, the holders of a majority of our voting shares can elect all of the directors then standing for election. Our restated 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.

KR Sridhar, our Chief Executive Officer and Chairman, has entered into voting agreements with certain of our stockholders who hold Class B common stock. Under the voting agreement (a form of which is filed as an exhibit to our Annual Report on Form 10-K for the year ended December 31, 2019), stockholders agreed to vote all of their shares as directed by, and granted an irrevocable proxy to, Mr. Sridhar at his discretion on all matters to be voted upon by stockholders. Each of the voting agreements will automatically terminate:

(i) upon the liquidation, dissolution or winding up of our business operations;

(ii) upon the execution by us of a general assignment for the benefit of creditors or the appointment of a receiver or trustee to take possession of our property and assets;

(iii) following our initial public offering, as to (a) any shares of Class B common stock that are converted to Class A common stock pursuant to our restated Certificate of Incorporation and (b) the Class A common stock resulting from such conversion (but such voting agreement shall remain effective as to any Class B common stock not so converted);

(iv) from and after the third anniversary of our initial public offering, at any time upon such resolution by our board of directors;

(v) upon the fifth anniversary of our initial public offering;

(vi) upon the date that is 60 days following the date on which KR Sridhar, or his successor under the voting agreement, ceases to provide services to us as one of our officers;

(vii) upon such date as of which none of the parties, other than KR Sridhar or his successor, to the then-outstanding voting agreements, was one of the five largest holders of our capital stock (which entered into a voting agreement) as of the date of our initial public offering; or

(viii) at such time following the date of our initial public offering when there is no Class B common stock outstanding.

No Preemptive or Similar Rights

Our common stock is not entitled to preemptive rights, and is not subject to redemption or sinking fund provisions.

Right to Receive Liquidation Distributions

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

Change of Control Transactions

In the case of any distribution or payment in respect of the shares of our Class A common stock or Class B common stock upon a merger or consolidation with or into any other entity, or other substantially similar transaction, the holders of our Class A common stock and Class B common stock will be treated equally and identically with respect to shares of Class A common stock or Class B common stock owned by them, unless the only difference in the per share distribution to the holders of the Class A common stock and Class B common stock is that any securities distributed to the holder of a share of Class B common stock have ten times the voting power of any securities distributed to the holder of a share of Class A common stock, or, if there are other differences, then such merger, consolidation, or other transaction is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and 80% of the outstanding shares of Class B common stock, each voting as a separate class.

Subdivisions and Combinations

If we subdivide or combine in any manner outstanding shares of Class A common stock or Class B common stock, the outstanding shares of the other class will be subdivided or combined in the same manner, unless different treatment of the shares of each class is approved by the affirmative vote of the holders of a majority of the outstanding shares of Class A common stock and 80% of the outstanding shares of Class B common stock, each voting as a separate class.

Conversion

Each outstanding share of Class B common stock is convertible at any time at the option of the holder into one share of Class A common stock. In addition, each share of Class B common stock will convert automatically into one share of Class A common stock upon any transfer, whether or not for value, which occurs after the date of our initial public offering, except for certain permitted transfers described in our restated Certificate of Incorporation, including transfers to family members, trusts solely for the benefit of the stockholder or their family members, and partnerships, corporations, and other entities exclusively owned by the stockholder or their family members.

In addition, partnerships or limited liability companies that hold shares of Class B common stock as of the ate of our initial public offering may distribute their Class B common stock to their respective partners or members (who may further distribute the Class B common stock to their respective partners or members) without triggering a conversion to Class A common stock. Such distributions must be conducted in accordance with the ownership interests of such partners or members and the terms of any agreements binding the partnership or limited liability company.

All the outstanding shares of our Class B common stock will convert automatically into shares of our Class A common stock upon the date that is the earliest to occur of (i) immediately prior to the close of business on the fifth anniversary of our initial public offering, (ii) immediately prior to the close of business on the date on which the outstanding shares of Class B common stock represent less than five percent (5%) of the aggregate number of shares of Class A common stock and Class B common stock then outstanding, (iii) the date and time, or the occurrence of an event, specified in a written conversion election delivered by KR Sridhar to our Secretary or Chairman of the Board to so convert all shares of Class B common stock or (iv) immediately following the date of the death of KR Sridhar. Following such conversion, each share of Class A common stock will have one vote per share and the rights of the holders of all outstanding common stock will be identical. Once converted or transferred and converted into Class A common stock, the Class B common stock may not be reissued.

Preferred Stock

Our board of directors is authorized, subject to limitations prescribed by Delaware law, to issue preferred stock in one or more series, 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, in each case without further vote or action by our stockholders. Our board of directors can also increase or decrease the number of shares of any series of preferred stock, 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 our 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 or preventing a change in control of our company and might adversely affect the market price of our common stock and the voting and other rights of the holders of our Class A common stock and Class B common stock. We currently have no shares of preferred stock issued and outstanding.

Description of Green Notes due 2025

The following summary of Bloom Energy Corporation's 2.50% Green Convertible Senior Notes due 2025 (the "Notes"), is a summary and does not purport to be complete. It is subject to and qualified in its entirety by reference to the Indenture, dated as of August 11, 2020 (the "Indenture"), between Bloom Energy Corporation and U.S. Bank National Association, as trustee (the "Trustee").

The Company encourages you to read the above referenced Indenture.

General

The following is a description of certain of the specific terms and conditions of the Indenture with respect to the Notes.

The Notes were initially issued in an aggregate principal amount of $230,000,000. The Notes are senior, unsecured obligations and will be (1) equal in right of payment with the Company's existing and future senior, unsecured indebtedness; (2) senior in right of payment to the Company's future indebtedness that is expressly subordinated to the Notes; (3) effectively subordinated to the Company's existing and future secured indebtedness, to the extent of the value of the collateral securing that indebtedness; and (4) structurally subordinated to all existing and future indebtedness and other liabilities, including trade payables, and (to the extent the Company is not a holder thereof) preferred equity, if any, of the Company's subsidiaries.

The maturity date of the Notes is August 15, 2025, unless earlier converted, redeemed or repurchased.

The Notes are represented by one or more registered notes in global form, but in certain limited circumstances may be represented by notes in definitive form.

The Notes were issued in denominations of $1,000 and integral multiples of $1,000.

Holders may convert their Notes at their option only under the following circumstances: (1) during any calendar quarter (and only during such calendar quarter) commencing after the calendar quarter ending on December 31, 2020, if the last reported sale price per share of our Class A common stock exceeds 130% of the conversion price for each of at least 20 trading days during the 30 consecutive trading days ending on, and including, the last trading day of the immediately preceding calendar quarter; (2) during the five consecutive business days immediately after any 10 consecutive trading day period (such 10 consecutive trading day period, the "measurement period") in which the trading price 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 per share of our Class A common stock on such trading day and the conversion rate on such trading day; or (3) upon the occurrence of specified corporate events.

On or after May 15, 2025, until the close of business on the second scheduled trading day immediately preceding the maturity date, holders of the Notes may convert their Notes at any time, regardless of the foregoing circumstances.

The Notes are subject to redemption, in whole or in part, at the Company's option, on or after August 21, 2023 and on or before the 26th scheduled trading day immediately before the maturity date, at a cash redemption price equal to the principal amount of the notes to be redeemed, plus accrued and unpaid interest, if any, to, but excluding, the redemption date, but only if the last reported sale price per share of our Class A common stock exceeds 130% of the conversion price on (1) each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the trading day immediately before the date we send the related redemption notice; and (2) the trading day immediately before the date we send such notice. In addition, calling any note for redemption will constitute a makewhole fundamental change with respect to that note, in which case the conversion rate applicable to the conversion of that note will be increased in certain circumstances if it is converted after it is called for redemption.

The Notes are subject to repurchase by us at the option of the holders following a fundamental change at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date.

A "**fundamental change**" will be deemed to have occurred at the time after the Notes are originally issued if any of the following occurs:

(1) a "person" or "group" (within the meaning of Section 13(d)(3) of the Exchange Act) (other than (w) us, (x) our wholly owned subsidiaries, (y) any employee benefit plans of ours or our wholly owned subsidiaries or (z) any "permitted party" (as defined below under this "—Definitions" section) or any "person" or "group" consisting solely of permitted parties) files any report with the SEC indicating that such person or group has become the direct or indirect "beneficial owner" (as defined below) of shares of our Class A common stock or common equity representing more than 50% of the voting power of all of our then-outstanding Class A common stock or common equity, as the case may be; or (2) any permitted party, or any "person" or "group" consisting solely of permitted parties, files any report with the SEC indicating that such permitted party, "person" or "group," as applicable, has become the direct or indirect "beneficial owner" of (A) our Class A common stock representing more than 50% of the voting power of all of our then-outstanding Class A common stock; (B) our common equity representing more than 55% of the voting power of all of our then-outstanding common equity; or (C) our Class A common stock representing more than 50% of the number of our then-outstanding shares of Class A common stock (excluding, solely for purposes of clause (A) and this clause (C), any Class A common stock that such permitted party, "person" or "group," as applicable, beneficially owns solely by virtue of its beneficial ownership of our Class B common stock);

(2) the consummation of: (1) any sale, lease or other transfer, in one transaction or a series of transactions, of all or substantially all of the assets of us and our subsidiaries, taken as a whole, to any person, other than solely to one or more of our wholly owned subsidiaries; or (2) any transaction or series of related transactions in connection with which (whether by means of merger, consolidation, share exchange, combination, reclassification, recapitalization, acquisition, liquidation or otherwise) all of our Class A common stock is exchanged for, converted into, acquired for, or constitutes solely the right to receive, other securities, cash or other property; *provided*, *however*, that any merger, consolidation, share exchange or combination of us pursuant to which the persons that directly or indirectly "beneficially owned" (as defined below) all classes of our common equity immediately before such transaction directly or indirectly "beneficially own," immediately after such transaction, more than 50% of all classes of common equity of the surviving, continuing or acquiring company or other transferee, as applicable, or the parent thereof, in substantially the same proportions vis-à-vis each other as immediately before such transaction will be deemed not to be a fundamental change pursuant to this clause (ii);

(3) the Company's stockholders approve any plan or proposal for the liquidation or dissolution of the Company; or

(4) the Company's Class A common stock ceases to be listed on any of The New York Stock Exchange, The Nasdaq Global Market or The Nasdaq Global Select Market (or any of their respective successors).

Interest and Principal

The Notes bear interest at a rate of 2.50% per year, payable semiannually in arrears on February 15 and August 15 of each year, beginning on February 15, 2021. The Notes will mature on August 15, 2025, unless earlier repurchased, redeemed or converted.

Interest will be paid to the person in whose name a note is registered at the close of business on February 1 or August 1, as the case may be, immediately preceding the relevant interest payment date (each, a "**regular record date**"). Interest on the Notes will be computed on the basis of a 360-day year composed of twelve 30-day months, and, for partial months, on the basis of the number of days actually elapsed in a 30-day month.

If any interest payment date, the maturity date or any earlier required repurchase date upon a fundamental change of a note falls on a day that is not a business day, the required payment will be made on the next succeeding business day and no interest on such payment will accrue in respect of the delay. The term "**business day**" means, with respect to any note, any day other than a Saturday, a Sunday or a day on which the Federal Reserve Bank of New York is authorized or required by law or executive order to close or be closed.

Optional Redemption

No "**sinking fund**" is provided for the Notes, which means that the Company is not required to redeem or retire the Notes periodically. Prior to August 21, 2023, the Notes will not be redeemable. Subject to the terms of the Indenture, the Company has the right, at its election, to redeem all, or any portion in an authorized denomination, of the Notes, at any time and from time to time, on a redemption date on or after August 21, 2023 and on or before the 26th scheduled trading day immediately before the maturity date, for cash, but only if the last reported sale price per share of Class A common stock exceeds 130% of the conversion price on (i) each of at least 20 trading days, whether or not consecutive, during the 30 consecutive trading days ending on, and including, the trading day immediately before the related redemption notice date; and (ii) the trading day immediately before such redemption notice date. In addition, calling any note for redemption will constitute a make-whole fundamental change with respect to that note, in which case the conversion rate applicable to the conversion of that note will be increased in certain circumstances if it is converted during the related redemption conversion period. If we elect to redeem less than all of the outstanding notes, then the redemption will not constitute a make-whole fundamental change with respect to the notes not called for redemption, and holders of the notes not called for redemption will not be entitled to an increased conversion rate for such notes.

The redemption date will be a business day of our choosing that is no more than 50, nor less than 30 scheduled trading days after the related redemption notice date (it being understood, for the avoidance of doubt, that such redemption notice date will be at least four scheduled trading days before the first day of the observation period relating to such redemption date pursuant to clause (ii) of the definition of "observation period"). However, if we elect to settle all conversions with a conversion date that occurs on or after the redemption notice date and on or before the second scheduled trading day immediately before the related redemption date by physical settlement, then we may instead elect to choose a redemption date that is a business day no more than 60, nor less than 30, calendar days after the date we send such redemption notice.

The redemption price for any note called for redemption will be the principal amount of such note plus accrued and unpaid interest on such note to, but excluding, the redemption date. However, if the redemption date is after a regular record date and on or before the next interest payment date, then (i) the holder of such note at the close of business on such regular record date will be entitled, notwithstanding such redemption, to receive, on or, at our election, before such interest payment date, the unpaid interest that would have accrued on such note to, but excluding, such interest payment date; and (ii) the redemption price will not include accrued and unpaid interest on such note to, but excluding, such redemption date.

The Company may not redeem any of the Notes if the principal amount of the notes has been accelerated and such acceleration has not been rescinded on or before the redemption date (including as a result of the payment of the related redemption price and any related interest described above on the redemption date).

Repurchase Rights

If the Company undergoes a fundamental change prior to the maturity date of the Notes, holders may require us to repurchase for cash all or any portion of their Notes at a repurchase price equal to 100% of the principal amount of the Notes to be repurchased, plus accrued and unpaid interest to, but excluding, the fundamental change repurchase date. The Notes will be the Company's senior unsecured obligations and will rank senior in right of payment to any of the Company's indebtedness that is expressly subordinated in right of payment to the Notes; equal in right of payment to any of the Company's existing and future liabilities that are not so subordinated; effectively junior in right of payment to any of the Company's secured indebtedness to the extent of the value of the assets securing such indebtedness; and structurally junior to all indebtedness and other liabilities (including trade payables) of the Company's current or future subsidiaries.

Payments on the Notes; Paying Agent and Registrar; Transfer and Exchange

The Company will pay or cause the paying agent to pay the principal of, and interest on, Notes in global form registered in the name of or held by DTC or its nominee by wire transfer in immediately available funds to DTC or its nominee, as the case may be, as the registered holder of such global note.

The Company will pay or cause the paying agent to pay the principal of any certificated Notes at the office or agency designated by us for that purpose. The Company has initially designated the trustee as the Company's paying agent and registrar and its agency in the continental United States as a place where Notes may be presented for payment or for registration of transfer. The Company may, however, change the paying agent or registrar without prior notice to the holders of the Notes, and the Company may act as paying agent or registrar. Interest on certificated Notes will be payable (i) to holders having an aggregate principal amount of $5,000,000 or less, by check mailed to the holders of these Notes and (ii) to holders having an aggregate principal amount of more than $5,000,000, either by check mailed to each holder or, upon application by such a holder to the registrar not later than the relevant regular record date, by wire transfer in immediately available funds to that holder's account within the United States if such holder has provided us, the trustee or the paying agent (if other than the trustee) with the requisite information necessary to make such wire transfer, which application shall remain in effect until the holder notifies, in writing, the registrar of the Notes to the contrary.

A holder of Notes may transfer or exchange Notes at the office of the registrar in accordance with the Indenture. The registrar and the trustee may require a holder, among other things, to furnish appropriate endorsements and transfer documents. No service charge will be imposed by us, the trustee or the registrar for any registration of transfer or exchange of Notes, but the Company may require a holder to pay a sum sufficient to cover any transfer tax or other similar governmental charge required by law or permitted by the Indenture. The Company are not required to transfer or exchange any note selected for redemption or surrendered for conversion or required repurchase.

The registered holder of a note will be treated as its owner for all purposes.

Indenture Provisions

Governing Law

The Indenture and the Notes are governed by, and construed in accordance with, the laws of the State of New York.

Consolidation, Merger and Sale of Assets

The Indenture provides that the Company may consolidate with or merge with or into any other person, and may sell, transfer, or lease or convey all or substantially all of the Company's properties and assets to another person; provided that the following conditions are satisfied:

- the resulting, surviving or transferee Person (the "Successor Corporation"), if not the Company, shall be a corporation organized and existing under the laws of the United States of America, any State thereof or the District of Columbia, and the Successor Corporation (if not the Company) shall expressly assume, by supplemental indenture, all of the obligations of the Company under the Notes and the Indenture; and

- immediately after giving effect to such transaction, no Default or Event of Default shall have occurred and be continuing under the Indenture.

If the Company consolidates or merges with or into any other person or sell, transfer, lease or convey all or substantially all of the Company's properties and assets in accordance with the Indenture, the Successor Corporation will be substituted for us in the Indenture, with the same effect as if it had been an original party to the Indenture. As a result, the Successor Corporation may exercise the Company's rights and powers under the Indenture, and the Company will be released from all the Company's liabilities and obligations under the Indenture and under the debt securities.

Any substitution of the Successor Corporation for us might be deemed for federal income tax purposes to be an exchange of the debt securities for "new" debt securities, resulting in recognition of gain or loss for such purposes and possibly certain other adverse tax consequences to beneficial owners of the debt securities. Holders should consult their own tax advisors regarding the tax consequences of any such substitution.

For purposes of this covenant, "person" means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization or government or any agency or political subdivision thereof or any other entity.

Events of Default

Each of the following events are defined in the Indenture as an "**Event of Default**" with respect to the Notes:

(i) default in the payment when due (whether at maturity, upon redemption, Repurchase upon Fundamental Change or otherwise) of the principal of, or the redemption price or fundamental change repurchase price for, any Note;

(ii) a default for thirty (30) consecutive days in the payment when due of interest on any Green Note;

(iii) the Company's failure to deliver, when required by the Indenture, (x) a Fundamental Change Notice, or (y) a notice pursuant to Section 5.01(C)(i)(3), or (z) a notice of a Make Whole Fundamental Change (other than a Make-Whole Fundamental Change pursuant to clause (B) of the definition thereof) pursuant to the provisions referred to in Section 5.07(C), and, in the case of clause (x) only, such failure is not cured within five (5) days after its occurrence;

(iv) a default in the Company's obligation to convert a Note in accordance with Article 5 upon the exercise of the conversion right with respect thereto, if such default is not cured within three (3) days after its occurrence;

(v) a default in the Company's obligations under Article 6;

(vi) a default in any of the Company's obligations or agreements under this Indenture or the Notes (other than a default set forth in clause (i), (ii), (iii), (iv) or (v) of Section 7.01(A)) where such default is not cured or waived within sixty (60) days after written notice to the Company by the Trustee, or to the Company and the Trustee by Holders of at least twenty five percent (25%) of the aggregate principal amount of Notes then outstanding, which notice must specify such default, demand that it be remedied and state that such notice is a "Notice of Default";

(vii) a default by the Company or any of its Subsidiaries with respect to any one or more mortgages, agreements or other instruments under which there is outstanding, or by which there is secured or evidenced, any indebtedness for money borrowed of at least fifteen million dollars ($15,000,000) (or its foreign currency equivalent) in the aggregate of the Company or any of its Subsidiaries, whether such indebtedness exists as of the Issue Date or is thereafter created, where such default:

(1) constitutes a failure to pay the principal of such indebtedness when due and payable at its stated maturity, upon required repurchase, upon declaration of acceleration or otherwise, in each case after the expiration of any applicable grace period; or
(2) results in such indebtedness becoming or being declared due and payable before its stated maturity, in each case where such default is not cured or waived within thirty (30) days after notice to the Company by the Trustee or to the Company and the Trustee by Holders of at least twenty five percent (25%) of the aggregate principal amount of Notes then outstanding;

(viii) the Company or any of its Significant Subsidiaries, pursuant to or within the meaning of any Bankruptcy Law, either:

(1) commences a voluntary case or proceeding;
(2) consents to the entry of an order for relief against it in an involuntary case or proceeding;
(3) consents to the appointment of a custodian of it or for any substantial part of its property;
(4) makes a general assignment for the benefit of its creditors;
(5) takes any comparable action under any foreign bankruptcy law; or
(6) generally is not paying its debts as they become due; or

(ix) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that either:

(1) is for relief against Company or any of its Significant Subsidiaries in an involuntary case or proceeding;
(2) appoints a custodian of the Company or any of its Significant Subsidiaries, or for any substantial part of the property of the Company or any of its Significant Subsidiaries;
(3) orders the winding up or liquidation of the Company or any of its Significant Subsidiaries; or
(4) grants any similar relief under any foreign bankruptcy law,

and, in each case under Section 7.01(A)(ix), such order or decree remains unstayed and in effect for at least sixty (60) days.

Amendments

Without Consent of Holders. The Company and the Trustee may amend or supplement this Indenture or the Notes without the consent of any Holder to:

(A) cure any ambiguity or correct any omission, defect or inconsistency in this Indenture or the Notes;
(B) add guarantees with respect to the Company's obligations under this Indenture or the Notes;
(C) secure the Notes;
(D) add to the Company's covenants or Events of Default for the benefit of the Holders or surrender any right or power conferred on the Company under this Indenture;
(E) provide for the assumption of the Company's obligations under this Indenture and the Notes pursuant to, and in compliance with, Article 6;
(F) enter into supplemental indentures pursuant to, and in accordance with, Section 5.09 in connection with a Common Stock Change Event;
(G) irrevocably elect or eliminate any Settlement Method or Specified Dollar Amount; *provided*, *however*, that no such election or elimination will affect any Settlement Method theretofore elected (or deemed to be elected) with respect to any Note pursuant to Section 5.03(A);
(H) evidence or provide for the acceptance of the appointment, under this Indenture, of a successor Trustee;
(I) conform the provisions of this Indenture and the Notes to the "Description of Notes" section of the Company's preliminary offering memorandum, dated August 6, 2020, as supplemented by the related pricing term sheet, dated August 6, 2020;

(J) provide for or confirm the issuance of additional Notes pursuant to Section 2.03(B);
(K) comply with any requirement of the SEC in connection with any qualification of the Indenture or any supplemental indenture under the Trust Indenture Act, as then in effect; or
(L) make any other change to this Indenture or the Notes that does not, individually or in the aggregate with all other such changes, adversely affect the rights of the Holders, as such, in any material respect.

With Consent of Holders. The Company and the Trustee may, with the consent of the Holders of a majority in aggregate principal amount of the Notes then outstanding, amend or supplement this Indenture or the Notes or waive compliance with any provision of this Indenture or the Notes. Notwithstanding anything to the contrary in the foregoing sentence, but subject to Section 8.01, without the consent of each affected Holder, no amendment or supplement to this Indenture or the Notes, or waiver of any provision of this Indenture or the Notes, may:

(i) reduce the principal, or extend the stated maturity, of any Note;
(ii) reduce the Redemption Price or Fundamental Change Repurchase Price for any Note or change the times at which, or the circumstances under which, the Notes may or will be redeemed or repurchased by the Company;
(iii) reduce the rate, or extend the time for the payment, of interest on any Note;
(iv) make any change that adversely affects the conversion rights of any Note;
(v) impair the rights of any Holder set forth in Section 7.08 (as such section is in effect on the Issue Date);
(vi) change the ranking of the Notes;
(vii) make any Note payable in money, or at a place of payment, other than that stated in this Indenture or the Note;
(viii) reduce the amount of Notes whose Holders must consent to any amendment, supplement, waiver or other modification; or
(ix) make any direct or indirect change to any amendment, supplement, waiver or modification provision of this Indenture or the Notes that requires the consent of each affected Holder.

Additional Definitions

"**Fundamental Change Repurchase Price**" means the cash price payable by the Company to repurchase any Note upon its Repurchase Upon Fundamental Change, calculated pursuant to Section 4.02(D).

"**Repurchase Upon Fundamental Change**" means the repurchase of any Note by the Company pursuant to Section 4.02.

"**Holder**" means a person in whose name a Note is registered on the Registrar's books.

LEASE

This Lease (the "**Lease**"), dated as of the date set forth in Section 1 of the Summary of Basic Lease Information (the "**Summary**"), below, is made by and between "**Landlord**," as set forth in Section 2 of the Summary, and "**Tenant**," as set forth in Section 3 of the Summary, upon all of the terms, covenants, conditions and provisions of Articles 1 through 29 of this Lease which follow, all of which are incorporated herein.

SUMMARY OF BASIC LEASE INFORMATION

TERMS OF LEASE	DESCRIPTION
1. Date:	December 23, 2020
2. Landlord:	GOOGLE LLC, a Delaware limited liability company
3. Tenant:	BLOOM ENERGY CORPORATION, a Delaware corporation
4. Premises (Article 1).	
4.1 Building:	That certain building located at 1252 Orleans Drive, Sunnyvale, California (the "**Building**"), which contains approximately 50,000 rentable square feet of space in the aggregate.
4.2 Project:	The office project of which the Building is a part.
4.3 Premises:	The entire Building which contains approximately 50,000 rentable square feet of space (the "**Premises**").
5. Lease Term (Article 2).	
5.1 Length of Term:	Thirty-six (36) full calendar months.
5.2 Lease Commencement Date:	January 1, 2021 (the "**Lease Commencement Date**").
5.3 Lease Expiration Date:	December 31, 2023, unless sooner terminated pursuant to the terms of this Lease.
5.3.1 Tenant Termination Right	Notwithstanding the foregoing to the contrary, Tenant shall have the one-time right to terminate this Lease by (i) giving prior written notice of termination to Landlord no earlier than January 1, 2022 and no later than March 31, 2022 (the "**Tenant Termination Notice**"), and (ii) paying to Landlord a sum equal to two (2) months of then-current Rent concurrently with Tenant's giving of the Tenant Termination Notice to Landlord, in which event, this Lease shall terminate on, and the "**Lease Expiration Date**" shall be, December 31, 2022.

5.3.2 Landlord Termination Rights

Notwithstanding the foregoing to the contrary, Landlord shall have the right to terminate this Lease (i) at any time on or before March 31, 2023, if Tenant does not have, by August 1, 2022, a fully executed letter of intent for a new lease for new space to relocate Tenant's business from the Premises to such new space prior to the Lease Expiration Date, or (ii) at any time on or before June 30, 2023, if Tenant does not have, by October 1, 2022, a fully executed lease for new space to relocate Tenant's business from the Premises to such new space prior to the Lease Expiration Date by providing not less than five (5) days' prior written notice of termination (the "**Landlord Termination Notice**") to Tenant, in which event, this Lease shall terminate, and the "**Lease Expiration Date**" shall be the date which is specified as the Lease Expiration Date in the Landlord Termination Notice (which such date shall be no less than five (5) business days after the delivery of the Landlord Termination Notice). Each of the foregoing termination rights are separate and independent from the other, and Landlord's failure to exercise its right under item (i) above shall not waive Landlord right to exercise its right under item (ii) above. Tenant acknowledges and agrees that the foregoing termination rights are necessary to ensure Tenant's timely surrender of possession of the Premises on or before the Lease Expiration Date, which timely surrender is of the upmost importance to Landlord, and Tenant agrees to the foregoing termination rights by Landlord based on the terms and conditions contained in this Section 5.3.1. If neither Tenant nor Landlord has delivered the Tenant Termination Notice or the Landlord Termination Notice, respectively, then this Lease shall terminate, and the "**Lease Expiration Date**" shall be, December 31, 2023, unless sooner terminated pursuant to the terms of this Lease.

6. Base Rent (Article 3):	$ per month, commencing on the Lease Commencement Date and ending on December 31, 2021; $ per month commencing on January 1, 2022, and ending on December 31, 2022; and $ per month thereafter.
7. Tenant's Share (Article 4)	100%
8. Permitted Use (Article 5):	General manufacturing, research and development, industrial, warehouse, administration, and ancillary office use.
9. Letter of Credit (Article 21):	$
10. Address of Tenant (Section 30.18):	Bloom Energy Corporation 4353 No. First Street San Jose, California 94134 Attention: General Counsel

11. Address of Landlord (Section 30.18):	Google LLC 1600 Amphitheatre Parkway Mountain View, California 94043 Attention: Lease Administration and Google LLC 1600 Amphitheatre Parkway Mountain View, California 94043 Attention: Legal Department / RE Matters With a copy sent to: Google LLC c/o CBRE, Inc. 225 W. Santa Clara Street, 12th Floor San Jose, California 95113 Attention:
12. Landlord's Broker (Section 30.24):	CBRE, Inc. 225 W. Santa Clara Street, 12th Floor San Jose, California 95113 Attention: Advisory & Transaction Services

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK – SIGNATURE PAGE FOLLOWS]

IN WITNESS WHEREOF, Landlord and Tenant have caused this Lease to be executed the day and date first above written.

TENANT:BLOOM ENERGY CORPORATION,
a Delaware corporationBy: Name: Title:

LANDLORD:

GOOGLE LLC,
a Delaware limited liability company

By:__
Name:__
Title:__

ARTICLE 1.

PREMISES, BUILDING, PROJECT, AND COMMON AREAS

a. **Premises, Building, Project and Common Areas**.

i.. **The Premises**. Landlord hereby leases to Tenant and Tenant hereby leases from Landlord the Premises. The parties hereto agree that the lease of the Premises is upon and subject to the terms, covenants and conditions herein set forth, and Tenant covenants as a material part of the consideration for this Lease to keep and perform each and all of such terms, covenants and conditions by it to be kept and performed and that this Lease is made upon the condition of such performance. Tenant is currently in possession of the Premises and shall continue to accept the Premises and the Building in their current "as-is" condition as of the date of this Lease and the Lease Commencement Date, and Landlord shall not be obligated to provide or pay for any improvement work or services related to the improvement of the Premises. Tenant also acknowledges that neither Landlord nor any agent of Landlord has made any representation or warranty regarding the condition of the Premises, the Building or the Project or with respect to the suitability of any of the foregoing for the conduct of Tenant's business, except as specifically set forth in this Lease.

ii.. **The Building and The Project**. The Premises are a part of the Building. The Building is part of the Project. The "**Project**" means (i) the Building and the Common Areas, (ii) the land (which is improved with landscaping, above ground and subterranean parking facility(ies) and other improvements) upon which the Building and the Common Areas are located, and (iii) at Landlord's discretion, any additional real property, areas, land, buildings or other improvements added thereto outside of the Project. Except as otherwise expressly set forth in this Lease, Tenant shall maintain and operate certain portions of the Project as set forth in Article 7 of this Lease; provided, however, Landlord shall have the right, in its sole discretion, exercisable by delivery of written notice to Tenant at any time, to assume the maintenance and operation of any or all of such portions of the Project, in which event the manner in which such portions of the Project thereafter are maintained and operated shall be at the sole but reasonable discretion of Landlord and the use thereof shall be subject to such reasonable rules, regulations and restrictions as Landlord may make from time to time.

iii.. **Common Areas**. Tenant shall have the non-exclusive right to use in common with other tenants in the Project, and subject to the rules and regulations referred to in Article 5 of this Lease, those portions of the Project which are provided, from time to time, for use in common by Landlord, Tenant and any other tenants of the Project (such areas, together with such other portions of the Project designated by Landlord, in its discretion, including certain areas designated for the exclusive use of certain tenants, or to be shared by Landlord and certain tenants, are collectively referred to herein as the "**Common Areas**"). The Common Areas shall consist of the "Project Common Areas" and the "Building Common Areas." The term "**Project Common Areas**," as used in this Lease, shall mean the portion of the Project designated as such by Landlord. The term "**Building Common Areas**," as used in this Lease, shall mean the portions of the Common Areas located within the Building designated as such by Landlord. The manner in which the Common Areas are maintained and operated shall be at the sole but reasonable discretion of Landlord and the use thereof shall be subject to such reasonable rules, regulations and restrictions as Landlord may make from time to time. Landlord reserves the right to close temporarily, make alterations or additions to, or change the location of elements of the Project and the Common Areas, provided that Landlord will use commercially reasonable efforts to minimize any disruption to Tenant's business in the Premises.

b. **Verification of Rentable Square Feet of Premises and Building**. For purposes of this Lease, the "**rentable square feet**" of the Premises shall be deemed as set forth in Section 4.3 of the Summary and the rentable square feet of the Building shall be deemed as set forth in Section 4.1 of the Summary, and Landlord and Tenant hereby acknowledge and agree that the same shall not be subject to re-measurement or modification.

ARTICLE 2.

LEASE TERM; TERMINATION OF EXISTING LEASE

The terms and provisions of this Lease shall be effective as of the date of this Lease. The "**Lease Term**" shall commence on the "**Lease Commencement Date**," and shall terminate on the Expiration Date, unless this Lease is sooner terminated as hereinafter provided. Tenant acknowledges that Tenant (if applicable, as successor-in-interest to one or more party(ies)) is currently occupying the Premises pursuant to an existing lease (as the same may have been assigned, amended and/or modified, the "**Existing Lease**") with Landlord (if applicable, as successor-in-interest to one or more party(ies)). Notwithstanding anything to the contrary contained herein or in the Existing Lease, Tenant acknowledges and agrees that the Existing Lease shall terminate as of the day immediately preceding the Lease Commencement Date with the same force and effect as if the Existing Lease were scheduled to expire in accordance with its terms on such date.

ARTICLE 3.

BASE RENT

Commencing as of the Lease Commencement Date, Tenant shall pay, without prior notice or demand, to Landlord or Landlord's agent or, at Landlord's option, at such other place as Landlord may from time to time designate in writing, by a check for currency which, at the time of payment, is legal tender for private or public debts in the United States of America, base rent ("**Base Rent**") as set forth in Section 6 of the Summary, payable in equal monthly installments, in advance on or before the first day of each and every calendar month during the Lease Term, without any setoff or deduction whatsoever. The Base Rent for the first full month of the Lease Term which occurs after the expiration of any free rent period shall be paid on or before the Lease Commencement Date. If any Rent payment date (including the Lease Commencement Date) falls on a day of the month other than the first day of such month or if any payment of Rent is for a period which is shorter than one month, the Rent for any fractional month shall accrue on a daily basis for the period from the date such payment is due to the end of such calendar month or to the end of the Lease Term at a rate per day which is equal to 1/365 of the applicable annual Rent. All other payments or adjustments required to be made under the terms of this Lease that require proration on a time basis shall be prorated on the same basis.

ARTICLE 4.

ADDITIONAL RENT

a. **General Terms**. In addition to paying the Base Rent specified in Article 3 of this Lease, Tenant shall pay "Tenant's Share" of the annual "Direct Expenses," as those terms are defined in Sections 4.2.1 and 4.2.2 of this Lease, respectively. Such payments by Tenant, together with any and all other amounts payable by Tenant to Landlord pursuant to the terms of this Lease, are hereinafter collectively referred to as the "**Additional Rent**", and the Base Rent and the Additional Rent are herein collectively referred to as "**Rent**." All amounts due under this Article 4 as Additional Rent shall be payable for the same periods and in the same manner as the Base Rent. Without limitation on other obligations of Tenant which survive the expiration of the Lease Term, the obligations of Tenant to pay the Additional Rent provided for in this Article 4 shall survive the expiration of the Lease Term.

b. **Definitions of Key Terms Relating to Additional Rent**. As used in this Article 4, the following terms shall have the meanings hereinafter set forth:

i.."**Tenant's Share**" shall mean the amount set forth in Section 7 of the Summary.

ii.."**Direct Expenses**" shall mean "Operating Expenses" and "Tax Expenses."

iii.."**Expense Year**" shall mean each calendar year in which any portion of the Lease Term falls, through and including the calendar year in which the Lease Term expires, provided that Landlord, upon notice to Tenant, may change the Expense Year from time to time to any other twelve (12) consecutive month period, and, in the event of any such change, Tenant's Share of Direct Expenses shall be equitably adjusted for any Expense Year involved in any such change.

iv.."**Operating Expenses**" shall mean all expenses, costs and amounts of every kind and nature which Landlord pays or accrues during any Expense Year because of or in connection with the ownership, management, maintenance, security, repair, replacement, renovation, restoration or operation of the Project, or any portion thereof. Without limiting the generality of the foregoing, Operating Expenses shall specifically include any and all of the following, in each instance to the extent that the enumerated costs are not paid directly by Tenant to third parties: (i) the cost of supplying all utilities, the cost of operating, repairing, replacing, maintaining, renovating and restoring the utility, telephone, mechanical, sanitary, storm drainage, and elevator systems, and the cost of maintenance and service contracts in connection therewith; (ii) the cost of licenses, certificates, permits and inspections and the cost of contesting any governmental enactments which may affect Operating Expenses, and the costs incurred in connection with a governmentally mandated transportation system management program or similar program; (iii) the cost of all insurance carried by Landlord in connection with the Project as reasonably determined by Landlord; (iv) the cost of landscaping, relamping, and all supplies, tools, equipment and materials used in the operation, repair and maintenance of the Project, or any portion thereof; (v) the costs incurred in connection with the parking areas servicing the Project; (vi) fees and other costs, including management and/or incentive fees, consulting fees, legal fees and accounting fees, of all contractors and consultants in connection with the management, operation, maintenance, replacement, renovation, repair and restoration of the Project; (vii) payments under any equipment rental agreements and the fair rental value of any management office space (but excluding the cost of any management office space located outside the Project, whether or not for the purpose of managing the Project); (viii) subject to item (f) below, wages, salaries and other compensation and benefits, including taxes levied thereon, of all persons engaged in the operation, maintenance and security of the Project; (ix) the costs in connection with any "Underlying Documents" (as that term is defined in <u>Section 5.2</u> below); (x) operation, repair, maintenance, renovation, replacement and restoration of all systems and equipment and components thereof of the Project; (xi) the cost of janitorial, alarm, security and other services, replacement, renovation, restoration and repair of wall and floor coverings, ceiling tiles and fixtures in common areas, maintenance, replacement, renovation, repair and restoration of curbs and walkways, repair to roofs and roof membranes and re-roofing; (xii) amortization (including interest on the unamortized cost not to exceed the lesser of eight percent (8%) per annum and the maximum rate permitted by law), over such period of time as Landlord shall reasonably determine in accordance with sound real estate management and accounting principles, consistently applied, of the cost of acquiring or the rental expense of personal property used in the maintenance, operation and repair of the Project, or any portion thereof; (xiii) the cost of capital improvements, capital alterations, capital additions, capital repairs or capital replacements or other costs incurred in connection with the Project (A) which are intended to effect economies in the operation or maintenance of the Project, or any portion thereof, or to reduce current or future Operating Expenses or to enhance the safety or security of the Project or its occupants, (B) that are required to comply with present or reasonably anticipated conservation programs, (C) which are replacements or modifications of nonstructural items located in the Common Areas required to keep the Common Areas in good order or condition, (D) that are required under any governmental law or regulation (E) which are required in order for the Project, or any portion thereof, to obtain or maintain a certification under the U.S. Green Building Council's Leadership in Energy and Environmental Design ("**LEED**"), or other applicable certification agency in connection with Landlord's sustainability practices for the Project (as such sustainability practices are to be determined by Landlord, in its sole but reasonable discretion, from time to time), (F) that relate to the safety or security of the Project, or (G) the painting or re-painting of the Building; provided, however, that any capital expenditure incurred in connection with those items included under items (B) through (G) above shall be amortized with interest (not to exceed the greater of eight percent (8%) per annum and the maximum rate permitted by law) over the shorter of (X) seven (7) years, (Y) its useful life as Landlord shall reasonably determine in accordance with sound real estate management and accounting practices, consistently applied, or (Z) with respect to those items included under item (A) above, their recovery/payback period as Landlord shall reasonably determine in accordance with sound real estate management and accounting practices, consistently applied; (xiv) the costs, fees, charges or assessments imposed by, or resulting from any mandate imposed on Landlord by, any federal, state or local government for fire and police protection, trash removal, community services, or other services which do not constitute "Tax Expenses" as that term is defined in <u>Section 4.2.5</u>, below; (xv) the cost of tenant relation programs reasonably established by Landlord; and (xvi) the costs of any additional services not provided to the Project as of the Lease Commencement Date but which are thereafter provided by Landlord in connection with its prudent management of the Project. In accordance with <u>Section 7.2</u> below, Landlord has the right to require Tenant to pay for certain costs related to the replacement of the roof membrane and HVAC units at the Building and the resurfacing of the asphalt and concrete driveways and parking areas of the Project (collectively, the "**Major Items**"). Notwithstanding anything to the contrary contained in this Lease, if Landlord replaces a Major Item, and in accordance with GAAP, the cost of the replacement is not deductible as an expense in the year incurred, Landlord shall amortize the cost of the replacement of the Major Item over its useful life, as reasonably determined by Landlord, and Tenant shall only be obligated to reimburse Landlord each year for Tenant's Share of such amortized cost. Landlord shall have no obligation to amortize repairs or maintenance items relating to the Major Items that are deductible in the year incurred in accordance with GAAP, and all such repair and maintenance costs shall be payable by Tenant to Landlord as Operating Expenses in the year incurred. Notwithstanding anything to the contrary in this Lease, in no event shall Tenant be obligated to pay more than Fifty Thousand Dollars ($50,000) in the aggregate in any one year for such amortized costs. Additionally, notwithstanding the foregoing, for purposes of this Lease, Operating Expenses shall not, however, include:

(a) costs, including legal fees, space planners' fees, advertising and promotional expenses (except as otherwise set forth above), and brokerage fees incurred in connection with the original construction or development of the Project, and other costs and expenses incurred in procuring prospective tenants, negotiating and executing leases and constructing improvements required to prepare for a new tenant's occupancy;

(b) except as set forth in items (xi), (xii), (xiii), and (xiv) above, depreciation, interest and principal payments on mortgages and finance fees and other debt service costs, if any, penalties and interest;

(c) costs for which the Landlord is reimbursed by insurance or by anyone else (except to the extent of deductibles);

(d) any bad debt loss, rent loss, or reserves for bad debts or rent loss;

(e) costs associated with the operation of the business of the partnership or entity which constitutes the Landlord, as the same are distinguished from the costs of operation of the Project (which shall specifically include, but not be limited to, accounting costs associated with the operation of the Project). Costs associated with the operation of the business of the partnership or entity which constitutes the Landlord include costs of partnership accounting and legal matters, costs of defending any lawsuits with any mortgagee (except as the actions of the Tenant may be in issue), costs of selling, syndicating, financing, mortgaging or hypothecating any of the Landlord's interest in the Project, and costs incurred in connection with any disputes between Landlord and its employees, between Landlord and Project management, or between Landlord and other tenants or occupants;

(f) the wages and benefits of any employee who does not devote substantially all of his or her employed time to the Project unless such wages and benefits are prorated to reflect time spent on operating and managing the Project vis-a-vis time spent on matters unrelated to operating and managing the Project; provided, that in no event shall Operating Expenses for purposes of this Lease include wages and/or benefits attributable to personnel above the level of Project manager;

(g) amount paid as ground rental for the Project by the Landlord;

(h) overhead and profit increment paid to the Landlord or to subsidiaries or affiliates of the Landlord for services in the Project to the extent the same exceeds the costs of such services rendered by qualified, first-class unaffiliated third parties on a competitive basis;

(i) any compensation paid to clerks, attendants or other persons in commercial concessions operated by the Landlord (which shall specifically exclude the parking facilities), provided that any compensation paid to any concierge at the Project shall be includable as an Operating Expense;

(j) rentals and other related expenses incurred in leasing air conditioning systems, elevators or other equipment which if purchased the cost of which would be excluded from Operating

Expenses as a capital cost, except equipment not affixed to the Project which is used in providing janitorial or similar services and, further excepting from this exclusion such equipment rented or leased to remedy or ameliorate an emergency condition in the Project;

(k) any costs expressly excluded from Operating Expenses elsewhere in this Lease;

(l) rent for any office space occupied by Project management personnel to the extent the size or rental rate of such office space exceeds the size or fair market rental value of office space occupied by management personnel of the comparable buildings in the vicinity of the Building, with adjustment where appropriate for the size of the applicable project;

(m) costs to the extent arising from the gross negligence or willful misconduct of Landlord or its agents, employees, vendors, contractors, or providers of materials or services;

(n) the costs and expenses incurred in resolving disputes with other tenants, other occupants, or prospective tenants or occupants of the Project, collecting rents or otherwise enforcing leases of the tenants of the Project;

(o) interest or penalties due to the late payment by Landlord of taxes, utility bills or other such costs;

(p) any cost for overtime or other expenses to Landlord in curing defaults;

Landlord agrees that (1) Landlord will not collect or be entitled to collect more than one hundred percent (100%) of the Operating Expenses actually paid by Landlord in connection with the operation of the Project; and (2) Landlord shall make no profit from Landlord's collection of Operating Expenses.

v..**Taxes**.

1... "**Tax Expenses**" shall mean all federal, state, county, or local governmental or municipal taxes, fees, charges or other impositions of every kind and nature, whether general, special, ordinary or extraordinary, (including, without limitation, real estate taxes, general and special assessments, transit taxes, leasehold taxes or taxes based upon the receipt of rent, including gross receipts or sales taxes applicable to the receipt of rent, unless required to be paid by Tenant, personal property taxes imposed upon the fixtures, machinery, equipment, apparatus, systems and equipment, appurtenances, furniture and other personal property used in connection with the Project, or any portion thereof), which shall be paid or accrued during any Expense Year (without regard to any different fiscal year used by such governmental or municipal authority) because of or in connection with the ownership, leasing and operation of the Project, or any portion thereof; provided, that "Tax Expenses" shall not include any fees or penalties resulting from Landlord's failure to timely pay when due any taxes.

2... Tax Expenses shall include, without limitation: (i) Any tax on the rent, right to rent or other income from the Project, or any portion thereof, or as against the business of leasing the Project, or any portion thereof; (ii) Any assessment, tax, fee, levy or charge in addition to, or in substitution, partially or totally, of any assessment, tax, fee, levy or charge previously included within the definition of real property tax, it being acknowledged by Tenant and Landlord that Proposition 13 was adopted by the voters of the State of California in the June 1978 election ("**Proposition 13**") and that assessments, taxes, fees, levies and charges may be imposed by governmental agencies for such services as fire protection, street, sidewalk and road maintenance, refuse removal and for other governmental services formerly provided without charge to property owners or occupants, and, in further recognition of the decrease in the level and quality of governmental services and amenities as a result of Proposition 13, Tax Expenses shall also include any governmental or private assessments or the Project's contribution towards a governmental or private cost-sharing agreement for the purpose of augmenting or improving the quality of services and amenities normally provided by governmental agencies; (iii) Any assessment, tax, fee, levy, or charge allocable to or measured by the area of the Premises or the Rent payable hereunder, including, without limitation, any business or gross income tax or excise tax with respect to the receipt of such rent, or upon or with respect to the possession, leasing, operating, management, maintenance, alteration, repair, use or occupancy by Tenant of the Premises, or any portion thereof; (iv) Any assessment, tax, fee, levy or charge, upon this transaction or any document to which Tenant is a party, creating or transferring an interest or an estate in the Premises; and (v) All of the real estate taxes and assessments imposed upon or with respect to the Building and all of the real estate taxes and assessments imposed on the land and improvements comprising the Project.

3... Any costs and expenses (including, without limitation, reasonable attorneys' and consultants' fees) incurred in attempting to protest, reduce or minimize Tax Expenses shall be included in Tax Expenses in the Expense Year such expenses are incurred. Refunds of Tax Expenses shall be credited against Tax Expenses and refunded to Tenant regardless of when received, based on the Expense Year to which the refund is applicable, provided that in no event shall the amount to be refunded to Tenant for any such Expense Year exceed the total amount paid by Tenant as Tax Expenses under this Article 4 for such Expense Year. If Tax Expenses for any period during the Lease Term or any extension thereof are increased after payment thereof for any reason, including, without limitation, error or reassessment by applicable governmental or municipal authorities, Tenant shall pay Landlord upon demand Tenant's Share of any such increased Tax Expenses. Notwithstanding anything to the contrary contained in this Section 4.2.5 (except as set forth in Section 4.2.5.2 above), there shall be excluded from Tax Expenses (i) all excess profits taxes, franchise taxes, gift taxes, capital stock taxes, inheritance and succession taxes, estate taxes, federal and state income taxes, and other taxes to the extent applicable to Landlord's general or net income (as opposed to rents, receipts or income attributable to operations at the Project), (ii) any items included as Operating Expenses, and (iii) any items paid by Tenant under Section 4.5 of this Lease. Notwithstanding anything to the contrary set forth in this Lease, only Landlord may institute proceedings to reduce Tax Expenses and the filing of any such proceeding by Tenant without Landlord's consent shall constitute an event of default by Tenant under this Lease. Notwithstanding the foregoing, Landlord shall not be obligated to file any application or institute any proceeding seeking a reduction in Tax Expenses.

c. **Allocation of Direct Expenses**.

i..**Method of Allocation**. The parties acknowledge that the Building is a part of a multi-building project and that the costs and expenses incurred in connection with the Project (*i.e.* the Direct Expenses) should be shared between the tenants of the Building and the tenants of the other buildings in the Project. Accordingly, as set forth in Section 4.2 above, Direct Expenses (which consists of Operating Expenses and Tax Expenses) are determined annually for the Project as a whole, and a portion of the Direct Expenses, which portion shall be determined by Landlord on an equitable basis, shall be allocated to the tenants of the Building (as opposed to the tenants of any other buildings in the Project) and such portion shall be the Direct Expenses for purposes of this Lease. Such portion of Direct Expenses allocated to the tenants of the Building shall include all Direct Expenses attributable solely to the Building and an equitable portion of the Direct Expenses attributable to the Project as a whole.

ii..**Cost Pools**. Landlord shall have the right, from time to time, to equitably allocate some or all of the Direct Expenses for the Project among different portions or occupants of the Project (the "**Cost Pools**"), in Landlord's reasonable discretion. Such Cost Pools may include, but shall not be limited to, the office space tenants of a building of the Project or of the Project, and the retail space tenants of a building of the Project or of the Project. The Direct Expenses within each such Cost Pool shall be allocated and charged to the tenants within such Cost Pool in an equitable manner.

d. **Calculation and Payment of Additional Rent**. Tenant shall pay to Landlord, in the manner set forth in Section 4.4.1, below, and as Additional Rent, an amount equal to Tenant’s Share of Direct Expenses.

i..**Statement of Actual Direct Expenses and Payment by Tenant**. Landlord shall use commercially reasonable efforts to give to Tenant following the end of each Expense Year, a statement (the "**Statement**") which shall state the Direct Expenses incurred or accrued for such preceding Expense Year, and which shall indicate the amount of Tenant's Share of Direct Expenses. Upon receipt of the Statement for each Expense Year commencing or ending during the Lease Term, Tenant shall pay, with its next installment of Base Rent due, the full amount of Tenant’s Share of Direct Expenses for such Expense Year, less the amounts, if any, paid during such

Expense Year as "Estimated Direct Expenses," as that term is defined in Section 4.4.2, below, and if Tenant paid more as Estimated Direct Expenses than the actual Tenant's Share of Direct Expenses, Tenant shall receive a credit in the amount of Tenant's overpayment against Rent next due under this Lease. The failure of Landlord to timely furnish the Statement for any Expense Year shall not prejudice Landlord or Tenant from enforcing its rights under this Article 4. Even though the Lease Term has expired and Tenant has vacated the Premises, when the final determination is made of Tenant's Share of Direct Expenses for the Expense Year in which this Lease terminates, Tenant shall immediately pay to Landlord Tenant's Share of Direct Expenses, and if Tenant paid more as Estimated Direct Expenses than the actual Tenant's Share of Direct Expenses, Landlord shall, within thirty (30) days, deliver a check payable to Tenant in the amount of the overpayment. The provisions of this Section 4.4.1 shall survive the expiration or earlier termination of the Lease Term. Notwithstanding anything to the contrary contained in this Lease, if Landlord has not provided a Statement to Tenant within twenty-four (24) months after the end of any Expense Year during the Term, Tenant shall not be obligated to pay for the Expense Year for which such Statement was not provided Tenant's Share of Direct Expenses in excess of the estimated Direct Expenses paid by Tenant for such Expense Year.

ii..**Statement of Estimated Direct Expenses**. In addition, Landlord shall endeavor to give Tenant a yearly expense estimate statement (the "**Estimate Statement**") which shall set forth Landlord's reasonable estimate (the "**Estimate**") of what the total amount of Direct Expenses for the then-current Expense Year shall be and the estimated Tenant's Share of Direct Expenses (the "**Estimated Direct Expenses**"). The failure of Landlord to timely furnish the Estimate Statement for any Expense Year shall not preclude Landlord from enforcing its rights to collect any Estimated Direct Expenses under this Article 4, nor shall Landlord be prohibited from revising any Estimate Statement or Estimated Direct Expenses theretofore delivered to the extent necessary. Thereafter, Tenant shall pay, with its next installment of Base Rent due, a fraction of the Estimated Direct Expenses for the then-current Expense Year (reduced by any amounts paid pursuant to the last sentence of this Section 4.4.2). Such fraction shall have as its numerator the number of months which have elapsed in such current Expense Year, including the month of such payment, and twelve (12) as its denominator. Until a new Estimate Statement is furnished (which Landlord shall have the right to deliver to Tenant at any time), Tenant shall pay monthly, with the monthly Base Rent installments, an amount equal to one-twelfth (1/12) of the total Estimated Direct Expenses set forth in the previous Estimate Statement delivered by Landlord to Tenant.

e. **Taxes and Other Charges for Which Tenant Is Directly Responsible**.

i..Tenant shall be liable for and shall pay before delinquency, taxes levied against Tenant's equipment, furniture, fixtures and any other personal property located in or about the Premises. If any such taxes on Tenant's equipment, furniture, fixtures and any other personal property are levied against Landlord or Landlord's property or if the assessed value of Landlord's property is increased by the inclusion therein of a value placed upon such equipment, furniture, fixtures or any other personal property and if Landlord pays the taxes based upon such increased assessment, which Landlord shall have the right to do regardless of the validity thereof but only under proper protest if requested by Tenant, Tenant shall upon demand repay to Landlord the taxes so levied against Landlord or the proportion of such taxes resulting from such increase in the assessment, as the case may be.

ii..If the tenant improvements in the Premises, whether installed and/or paid for by Landlord or Tenant and whether or not affixed to the real property so as to become a part thereof, are assessed for real property tax purposes at a valuation higher than the valuation at which tenant improvements conforming to Landlord's "building standard" in other space in the Building are assessed, then the taxes levied against Landlord or the property by reason of such excess assessed valuation shall be deemed to be taxes levied against personal property of Tenant and shall be governed by the provisions of Section 4.2.1, above.

iii..Notwithstanding any contrary provision herein, Tenant shall pay prior to delinquency any (i) rent tax or sales tax, gross receipts tax, service tax, transfer tax or value added tax, or any other applicable tax on the rent or services herein or otherwise respecting this Lease, (ii) taxes assessed upon or with respect to the possession, leasing, operation, management, maintenance, alteration, repair, use or occupancy by Tenant of the Premises or any portion of the Project, including the Project parking facilities and taxes or assessments due to any type of ballot measure, including an initiative adopted by the voters or local agency, or a state proposition approved by the voters;

or (iii) taxes assessed upon this transaction or any document to which Tenant is a party creating or transferring an interest or an estate in the Premises.

f. **Landlord's Records**. Upon Tenant's written request given not more than ninety (90) days after Tenant's receipt of a Statement for a particular Expense Year, and provided that Tenant is not then in default under this Lease beyond the applicable notice and cure period provided in this Lease, specifically including, but not limited to, the timely payment of Additional Rent (whether or not the same is the subject of the audit contemplated herein), Landlord shall furnish Tenant with such reasonable supporting documentation in connection with said Direct Expenses as Tenant may reasonably request. Landlord shall provide said documentation to Tenant within sixty (60) days after Tenant's written request therefor. Within one hundred eighty (180) days after receipt of a Statement by Tenant (the "**Audit Period**"), if Tenant disputes the amount of Direct Expenses set forth in the Statement, an independent certified public accountant (which accountant (A) is a member of a nationally or regionally recognized certified public accounting firm which has previous experience in auditing financial operating records of landlords of office buildings, (B) shall not already be providing primary accounting and/or lease administration services to Tenant and shall not have provided primary accounting and/or lease administration services to Tenant in the past three (3) years, (C) is not working on a contingency fee basis (*i.e.*, Tenant must be billed based on the actual time and materials that are incurred by the certified public accounting firm in the performance of the audit), and (D) shall not currently or in the future be providing accounting and/or lease administration services to another tenant in the Building and/or the Project in connection with a review or audit by such other tenant of Direct Expenses), designated and paid for by Tenant, may, after reasonable notice to Landlord and at reasonable times, audit Landlord's records with respect to the Statement at Landlord's corporate offices, provided that (i) Tenant is not then in default under this Lease (beyond the applicable notice and cure periods provided under this Lease), (ii) Tenant has paid all amounts required to be paid under the applicable Estimate Statement and Statement, and (iii) a copy of the audit agreement between Tenant and its particular certified public accounting firm has been delivered to Landlord prior to the commencement of the audit. In connection with such audit, Tenant and Tenant's certified public accounting firm must agree in advance to follow Landlord's reasonable rules and procedures regarding an audit of the aforementioned Landlord records, and shall execute a commercially reasonable confidentiality agreement regarding such audit. Any audit report prepared by Tenant's certified public accounting firm shall be delivered concurrently to Landlord and Tenant within the Audit Period. Tenant's failure to audit the amount of Direct Expenses set forth in any Statement within the Audit Period shall be deemed to be Tenant's approval of such Statement and Tenant, thereafter, waives the right or ability to audit the amounts set forth in such Statement. If after such audit, Tenant still disputes such Direct Expenses, an audit to determine the proper amount shall be made, at Tenant's expense, by an independent certified public accountant (the "**Accountant**") selected by Landlord and subject to Tenant's reasonable approval; provided that if such audit by the Accountant proves that Direct Expenses set forth in the particular Statement were overstated by more than five percent (5%), then the cost of the Accountant and the cost of such audit shall be paid for by Landlord. Tenant hereby acknowledges that Tenant's sole right to audit Landlord's records and to contest the amount of Direct Expenses payable by Tenant shall be as set forth in this Section 4.6, and Tenant hereby waives any and all other rights pursuant to applicable law to audit such records and/or to contest the amount of Direct Expenses payable by Tenant.

ARTICLE 5.

USE OF PREMISES

a. **Permitted Use**. Tenant shall use the Premises solely for the Permitted Use set forth in Section 8 of the Summary and Tenant shall not use or permit the Premises or the Project to be used for any other purpose or purposes whatsoever without the prior written consent of Landlord, which may be withheld in Landlord's sole discretion.

b. **Prohibited Uses**. Tenant further covenants and agrees that Tenant shall not use, or suffer or permit any person or persons to use, the Premises or any part thereof for any use or purpose contrary to the provisions of the Rules and Regulations set forth in **Exhibit A**, attached hereto, or in violation of the laws of the United States of America, the State of California, the ordinances, regulations or requirements of the local municipal or county governing body or other lawful authorities having jurisdiction over the Project) including, without limitation, any such laws, ordinances, regulations or requirements relating to hazardous materials or substances, as those terms are defined by applicable laws now or hereafter in effect (collectively, “**Laws**”), or any easement, license, operating agreement, declaration, restrictive covenant, or instrument recorded against the Project, including, without limitation, any covenants, conditions and restrictions affecting the Project, any reciprocal easement agreements affecting the Project, any parking licenses, and any agreements with transit agencies affecting the Project (collectively, "**Underlying Documents**"). A violation of the Rules and Regulations by Tenant shall be deemed a default under this Article 5. Tenant shall promptly cease or cause to be ceased any activity that Landlord reasonably deems to be likely to damage the reputation of the Project or obstruct or interfere with the rights of other tenants or occupants of the Building, or injure or annoy them or use or allow the Premises to be used for any unlawful or materially improper or materially objectionable purpose, nor shall Tenant cause, maintain or permit any nuisance in, on or about the Premises. Tenant shall comply with, and Tenant's rights and obligations under the Lease and Tenant's use of the Premises shall be subject and subordinate to, all recorded easements, covenants, conditions, and restrictions now or hereafter affecting the Project.

c. **CC&Rs**. Tenant shall comply with all recorded covenants, conditions, and restrictions currently affecting the Project (the "**Current CC&Rs**"). Additionally, Tenant acknowledges that the Project may be subject to any future covenants, conditions, and restrictions and/or amendments to the Current CC&Rs (in any such event, the "**Future CC&Rs**") which Landlord, in Landlord's discretion, deems reasonably necessary or desirable, and Tenant agrees that this Lease shall be subject and subordinate to the Current CC&Rs and such Future CC&Rs (collectively, the "**CC&Rs**").

d. **Building Access**. Subject to the terms of this Lease, the CC&Rs, Landlord's rules and regulations and such security measures that Landlord may reasonably deem necessary or desirable for the safety and security of the Project, the Building or the Premises, Tenant shall have access to the Building and the Premises 24 hours per day, 7 days per week, subject to full or partial closures which may be required from time to time for construction, maintenance, repairs, actual or threatened emergency or other events or circumstances which make it reasonably necessary to temporarily restrict or limit access.

ARTICLE 6.

SERVICES AND UTILITIES

a. **Services and Utilities**. Tenant shall be responsible for contracting directly with any applicable public utility company or third party provider for, and shall promptly pay, as the same become due, all charges for, water, gas, electricity, telephone, sewer service, waste pick-up and any other utilities, materials and services furnished directly to or used by Tenant at the Project during the Lease Term, including, without limitation, (i) meter, use and/or connection fees, hook-up fees, or standby fees, and (ii) penalties for discontinued or interrupted service. Tenant's use of electricity shall never exceed the capacity of the feeders to the Project or the risers or wiring installations. Notwithstanding the foregoing, Tenant shall have the right to upgrade such capacity, at Tenant's sole cost, in order to accommodate Tenant's use of the Premises at any time during the Lease Term; provided that, any such upgrades by Tenant shall be performed pursuant to the terms and conditions of Article 8 of this Lease. Any interruption or cessation of utilities resulting from any causes, including any entry for repairs pursuant to this Lease, and any renovation, redecoration or rehabilitation of any area of the Project, shall not render Landlord liable for damages to either person or property or for interruption or loss to Tenant's business, nor be construed as an eviction of Tenant, nor work an abatement of any portion of Rent, nor relieve Tenant from fulfillment of any covenant or agreement hereof.

Tenant acknowledges that Landlord may be required in the future to disclose information concerning Tenant's energy usage to certain third parties, including, without limitation, prospective purchasers, lenders and tenants of the Building ("**Tenant Energy Use Disclosure**"). Tenant shall cooperate with Landlord with respect to any Tenant Energy Use Disclosure. Without limiting the generality of the foregoing, Tenant shall, within ten (10) business days following receipt of written request from Landlord, disclose to Landlord all information reasonably requested by Landlord in connection with such Tenant Energy Use Disclosure, including, but not limited to, the amount of power or other utilities consumed within the Premises for which the meters for such utilities are in

Tenant's name, the number of employees working within the Premises, the operating hours for Tenant's business in the Premises, and the type and number of equipment operated by Tenant in the Premises. Tenant acknowledges that this information shall be provided on a non-confidential basis and may be provided by Landlord to the applicable utility providers, the California Energy Commission (and other governmental entities having jurisdiction), and any third parties to whom Landlord is required to make any Tenant Energy Use Disclosure. Tenant hereby (A) consents to all such Tenant Energy Use Disclosures, and (B) acknowledges that Landlord shall not be required to notify Tenant of any Tenant Energy Use Disclosure. Tenant agrees that none of the "Landlord Parties," as that term is defined in Section 10.1, below, shall be liable for, and Tenant hereby releases the Landlord Parties from, any and all loss, cost, damage, expense and liability relating to, arising out of and/or resulting from any Tenant Energy Use Disclosure. In addition, Tenant represents to Landlord that any and all information provided by Tenant to Landlord pursuant to this paragraph shall be, to the best of Tenant's actual knowledge, true and correct in all material respects, and Tenant acknowledges that Landlord shall rely on such information. The terms of this paragraph shall survive the expiration or earlier termination of this Lease.

ARTICLE 7.

REPAIRS

a. **Tenant's Obligations**.

i.. **Tenant Repair Obligations**. Except to the extent made the obligation of Landlord pursuant to Sections 7.2 and Articles 11 and 13 below (which include, without limitation, the Landlord Maintenance Items [as defined in Section 7.2 below]), Tenant shall, throughout the Lease Term, at its sole cost and expense, (A) keep, maintain, repair and replace as required, the Premises and Building and every part thereof in a good standard of maintenance, repair and replacement as required, and in good and sanitary condition as required for the safety and security of Tenant's employees and guests, (B) maintain the Premises and Building in compliance with all applicable laws, ordinances, regulations and requirements, and (C) keep and maintain the Premises and Building in good order and condition, and repair, replace and improve every part thereof as required for the safety and security of Tenant’s employees and guests, (items (A) through (C) shall collectively be referred to herein as the "**Tenant's Repair Obligations**"), including, without limitation, the following to the extent required by such items (A) through (C): (1) glass, windows, window frames, window casements (including the repairing, resealing, cleaning and replacing of both interior and exterior windows) and skylights; (2) interior and exterior doors, door frames and door closers; (3) interior lighting (including, without limitation, light bulbs and ballasts); (4) the plumbing, sewer, drainage, electrical, fire protection, elevator, escalator, life safety and security systems and equipment, existing heating, ventilation and air-conditioning ("**HVAC**") systems, and all other mechanical, electrical and communications systems and equipment (collectively, the "**Building Systems**") serving the Premises, including (i) any specialty or supplemental Building Systems installed by or for Tenant and (ii) all electrical facilities and equipment, including lighting fixtures, lamps, fans and any exhaust equipment and systems, electrical motors and all other appliances and equipment of every kind and nature located in, upon or about the Premises; (5) all communications systems serving the Premises; (6) all of Tenant's security systems in or about or serving the Premises; (7) Tenant's signage; (8) interior demising walls and partitions (including painting and wall coverings), equipment, floors, and any roll-up doors, ramps and dock equipment; and (9) the non-structural portions of the roof of the Building, including the roof membrane. Tenant's Repair Obligations also include the routine maintenance of the load bearing and exterior walls of the Building, including, without limitation, any painting, sealing, patching and waterproofing of such walls. Tenant shall additionally be responsible, at Tenant's sole cost and expense, to furnish all expendables, including light bulbs, paper goods and soaps, used in the Premises, and, to the extent that Landlord notifies Tenant in writing of its intention to no longer arrange for such monitoring, cause the fire alarm systems serving the Premises to be monitored by a monitoring or protective services firm approved by Landlord in writing. Tenant shall have the benefit of all contract warranties available to Landlord regarding the HVAC systems and equipment.

ii.. **Management Standards**. Landlord and Tenant hereby acknowledge that Tenant's in-house facilities management department (collectively, the "**Facilities Team**") is comprised of a multi-disciplined staff of highly trained and professional facilities maintenance, repair and management personnel. Tenant shall cause, throughout the Lease Term, its Facilities Team to continue to maintain materially consistent levels of capability and expertise with the levels of such Facilities Team as of the date of this Lease, and apply such Facilities Team to the Premises as reasonably required to satisfy Tenant's Repair Obligations.

1... **Professional Management**. Tenant shall manage and operate the Premises and perform its duties under this Lease in a manner consistent with the standards followed by Landlord and other institutional owners and management companies that are managing buildings of comparable age and quality in the vicinity of the Project (the "**Management Standard**").

2... **Service Agreements**. All Building Systems, including HVAC, elevators, main electrical, plumbing and fire/life-safety systems, shall be maintained, repaired and replaced by Tenant (i) in a commercially reasonable condition, (ii) in accordance with any applicable manufacturer specifications relating to any particular component of such Building Systems, (iii) in accordance with applicable laws, ordinances, regulations and requirements. Tenant shall contract with a qualified, experienced professional third party service company to perform its maintenance, repair and replacement obligations hereunder with respect to the HVAC systems (which shall provide for and include, without limitation, replacement of filters, oiling and lubricating of machinery, parts replacement, adjustment of drive belts, oil changes and other preventive maintenance, including annual maintenance of duct work, interior unit drains and caulking of sheet metal, and recaulking of jacks and vents on an annual basis), the roof, the building fire/life-safety systems and the electrical and plumbing systems (each a "**Service Contract**"). Tenant shall deliver full and complete copies of each Service Contract to Landlord within thirty (30) days after the effective date of such Service Contract, but may redact any items that Tenant reasonably deems in good faith to be confidential. In addition, Tenant shall regularly, in accordance with commercially reasonable standards, generate and maintain preventive maintenance records relating to each Building's mechanical and main electrical systems, including life safety, elevators and the central plant ("**Preventative Maintenance Records**"). In addition, upon Landlord's request, Tenant shall deliver a copy of all current Service Agreements to Landlord and/or a copy of the Preventative Maintenance Records.

3... **Pest Control; Janitorial Obligations**. Tenant shall also be responsible for all pest control within the Premises and the Building, and for all cleaning and trash removal and disposal at and from the Premises and the Building.

4... **Landlord's Right to Perform Tenant's Repair Obligations**. Tenant shall notify Landlord in writing at least thirty (30) days prior to performing any material Tenant's Repair Obligations, including without limitation, any Tenant's Repair Obligation which affect the Building Systems or which is reasonably anticipated to cost more than $25,000.00. Upon receipt of such notice from Tenant, Landlord shall have the right to either (i) perform such material Tenant's Repair Obligation by delivering notice of such election to Tenant within thirty (30) days following receipt of Tenant's notice, and Tenant shall pay Landlord the cost thereof (including Landlord's reasonable supervision fee) within thirty (30) days after receipt of an invoice therefor, or (ii) require Tenant to perform such Tenant's Repair Obligation at Tenant's sole cost and expense. If Tenant fails to perform any Tenant's Repair Obligation within a reasonable time period, as reasonably determined by Landlord, then Landlord may, but need not, following delivery of notice to Tenant of such election, make such Tenant Repair Obligation, and Tenant shall pay Landlord the cost thereof, (including Landlord's reasonable supervision fee) within thirty (30) days after receipt of an invoice therefor.

iii..**Meeting Requirements**.

1... **Maintenance Meetings**. At the written request of either Landlord or Tenant (a "**MM Request**"), each party shall arrange to meet and confer with the other (at a mutually reasonable and convenient time and location), as to the status of the maintenance, repair and other work required to be performed by each party under this Lease (each, a "**Maintenance Meeting**"); provided, however, in no event shall Landlord or Tenant be required to participate in more than one such Maintenance Meeting in any calendar quarter throughout the Lease Term, unless such a Maintenance Meeting is required in connection with an emergency situation or event.

2... **M&R Reports**. In connection with, and in advance of, any such Maintenance Meeting, to the extent the requesting party's MM Request included a request for maintenance and repair reports, documents and back-up materials, the responding party shall promptly deliver any maintenance and repair reports, documents and back-up materials related to the maintenance, repair and other work required to be performed by such party under this Lease, to the extent the same are regularly and customarily generated and maintained by, and in the possession of, its Facilities Team (collectively, the "**M&R Reports**"); provided, however, the responding party may also make a prompt written request for such M&R Reports maintained by the requesting party, in which case such request shall also be satisfied prior to the corresponding Maintenance Meeting.

3... **Books and Records**. Tenant shall maintain complete, detailed and accurate records, books and accounts of all funds disbursed in connection with Tenant's management and operation of the Premises (excepting salary disbursements internal to Tenant), including all M&R Reports. Tenant agrees to keep all of the aforementioned documents (collectively, the "**Books and Records**") safe, available and separable from any record not having to do with the Premises. Tenant shall not dispose of any such Books or Records until the same are at least three (3) years old.

iv..**Tenant's Risk Management Obligations**. Tenant shall promptly investigate and make a full timely written report to Landlord as to all alleged accidents known to Tenant and/or all claims for damages relating to the Premises known to Tenant, including any damage or destruction to the Premises. Landlord and Tenant shall notify each other immediately of any threatened or pending condemnation, rezoning or other governmental orders, proceedings or lawsuits involving the Premises.

v..**Tenant's Responsibilities Upon Termination of Management of the Premises**. Upon the expiration or earlier termination of this Lease for any reason, Tenant shall upon Landlord's demand therefor, deliver the following to Landlord, or Landlord's appointed agent on the effective date of such expiration or early termination (except to the extent that any such item has already been delivered to Landlord).

1... Copies of the Preventative Maintenance Records for the most recent full calendar year.

2... Copies of the Books and Records for the most recent full calendar year and any subsequent partial calendar year.

3... Any third party warranties, guaranties and operating manuals in Tenant's possession relating to the improvements in the Premises and any Building Systems being maintained by Tenant (copies thereof where reasonably acceptable).

4... All keys related to the telephone closets, janitorial closets, electrical closets, storage rooms, storage areas, rooftop access points, and all other areas which for which Tenant has restricted access.

5... A certification that Tenant, in connection with the terms and conditions of Section 10.3 of this Lease, has maintained those portions of the Building and Premises required to be maintained by Tenant in accordance with the terms and conditions of this Article 7 and Articles 24 and 25.

The obligation of Tenant to deliver the foregoing shall survive the expiration or earlier termination of the Lease.

b. **Landlord's Repair Obligations**. Subject to the provisions of Article 11 and Article 13 hereof, Landlord, at its own cost and expense, agrees to repair and maintain (the "**Landlord Repair Obligations**") only the structural elements of the roof of the Building (excluding the roof membrane), the structural soundness of the slab, structural soundness of the foundation of the Building and the structural elements of the exterior walls, and of any other load bearing walls, if any, of the Building (collectively, the "**Structural Elements**"). Subject to Section 10.5 below, Tenant shall reimburse Landlord for the cost of any maintenance, repair or replacement of the foregoing necessitated by Tenant's misuse, negligence, alterations to the Premises or any breach of its obligations under this

Lease. By way of example, and not limitation, the term "exterior walls" as used in this section shall not include windows, glass or plate glass, doors or overhead doors, special store fronts, dock bumpers. dock plates or levelers, or office entries. Tenant shall immediately give Landlord written notice of any repair required by Landlord pursuant to this Section 7.2, after which Landlord shall have a reasonable time in which to complete the repair. Nothing contained in this Section shall be construed to obligate Landlord to seal or otherwise maintain the surface of any foundation, floor or slab. Subject to reimbursement by Tenant as Operating Expenses in accordance with the provisions of Article 4 above, Landlord shall also repair and maintain the HVAC units, sprinkler systems, fire alarm systems, fire detection systems and exterior walls of the Premises in good condition and repair, and replace such items as necessary, and in doing so Landlord shall employ contractors to perform all repairs, maintenance and replacements of the HVAC units, sprinkler systems, fire alarm systems, fire detection systems and exterior walls of the Premises. The items described in the previous sentence that Landlord will cause to be repaired, maintained and replaced are hereinafter referred to as the "**Landlord Maintenance Items**." Notwithstanding anything to the contrary contained in this Lease, Landlord Maintenance Items shall not include any improvement or alteration made to the Premises by Tenant, and all such improvements and alterations shall be repaired, maintained and if necessary replaced by Tenant, at Tenant's sole cost and expense. Landlord shall determine in its sole discretion the scope and timing of the performance of such Landlord Maintenance Items, and Tenant shall not perform such Landlord Maintenance Items except as otherwise permitted by this Lease. Landlord's maintenance of the exterior walls of the Premises shall include the right, but not the obligation, of Landlord to paint from time to time all or some of the exterior walls, canopies, doors, windows, gutters, handrails and other exterior parts of the Premises with colors selected by Landlord and reasonably acceptable to Tenant, and Tenant shall reimburse Landlord as provided in Article 4 above. If the Premises contains landscaped areas ("**Landscaped Areas**"), Landlord shall maintain the Landscaped Areas, and Tenant shall reimburse Landlord for all costs incurred by Landlord in maintaining the Landscaped Areas in accordance with Article 4 above. Tenant shall immediately give Landlord written notice of any repair or maintenance required by Landlord pursuant to this section, after which Landlord shall have a reasonable time in which to complete such repair or maintenance. Tenant expressly waives the benefits of any statute now or hereafter in effect which would otherwise afford Tenant the right to make repairs at Landlord's expense or to terminate this Lease because of Landlord's failure to keep the Premises in good order, condition and repair. Subject to the other terms and conditions herein, Landlord may, but shall not be required to, enter the Premises upon reasonable prior notice to Tenant (except in the event of an emergency, in which case no prior notice shall be required), to make such repairs, alterations, improvements or additions to the Premises or to any equipment located in the Premises as Landlord shall desire or deem necessary or as Landlord may be required to do by governmental or quasi-governmental authority or court order or decree. In connection with the foregoing, Landlord shall use commercially reasonable efforts to minimize any interference to the conduct of Tenant's business in the Premises.

c. **Waiver**. Tenant hereby waives any and all rights under and benefits of subsection 1 of Section 1932 and Sections 1941 and 1942 of the California Civil Code or under any similar law, statute, or ordinance now or hereafter in effect.

ARTICLE 8.

ADDITIONS AND ALTERATIONS

a. **Landlord's Consent to Alterations**. Tenant may not make any improvements, alterations, additions or changes to the Premises, the Project or any mechanical, plumbing or heating and air conditioning ("**HVAC**") facilities or systems pertaining to the Premises (collectively, the "**Alterations**") without first procuring the prior written consent of Landlord to such Alterations, which consent shall be requested by Tenant not less than thirty (30) days prior to the commencement thereof, and which consent shall not be unreasonably withheld, conditioned or delayed by Landlord, provided it shall be deemed reasonable for Landlord to withhold its consent to any Alteration which, in the reasonable opinion of Landlord or its agents' or consultants', adversely affects the structural portions or the systems or equipment of the Building or the Building Systems or is visible from the exterior of the Building. Notwithstanding the foregoing, Tenant shall be permitted to make Alterations following ten (10) business days' notice to Landlord, but without Landlord's prior consent, to the extent that such Alterations are decorative only (*i.e.*, installation of carpeting or painting of the Premises).

b. **<u>Manner of Construction</u>**. Landlord may impose, as a condition of its consent to any and all Alterations or repairs of the Premises or about the Premises, such requirements as Landlord in its reasonable discretion may deem desirable, including, but not limited to, the requirement that Tenant utilize for such purposes only contractors, subcontractors, materials, mechanics and materialmen selected by Tenant from a list provided and approved by Landlord, the requirement that upon Landlord's request, Tenant shall, at Tenant's expense, remove such Alterations upon the expiration or any early termination of the Lease Term. Landlord agrees that if at the time that Tenant requests Landlord’s consent to an Alteration, Tenant also requests in writing confirmation as to whether or not Landlord will require the same to be removed upon the expiration or earlier termination of this Lease, and Landlord fails to notify Tenant that the Alteration must be removed at the time of Landlord’s consent to the same, then Tenant shall not be obligated to remove such Alterations upon the expiration or earlier termination of this Lease. Tenant shall construct such Alterations and perform such repairs in a good and workmanlike manner, in conformance with any and all applicable federal, state, county or municipal laws, rules and regulations and pursuant to a valid building permit, issued by the city in which the Building is located all in conformance with Landlord's reasonable construction rules and regulations; provided, however, that prior to commencing to construct any Alteration, Tenant shall meet with Landlord to discuss Landlord's design parameters and code compliance issues. In the event Tenant performs any Alterations in the Premises which require or give rise to governmentally required changes to the "Base Building," as that term is defined below, then Landlord shall, at Tenant's expense, make such changes to the Base Building. The "**Base Building**" shall include the structural portions of the Building, and the public restrooms, elevators, exit stairwells and the systems and equipment located in the internal core of the Building. In performing the work of any such Alterations, Tenant shall have the work performed in such manner so as not to obstruct access to the Project or any portion thereof, by any other tenant of the Project, and so as not to obstruct the business of Landlord or other tenants in the Project. Tenant shall not use (and upon notice from Landlord shall cease using) contractors, services, workmen, labor, materials or equipment that, in Landlord's reasonable judgment, would disturb labor harmony with the workforce or trades engaged in performing other work, labor or services in or about the Building or the Common Areas. In addition to Tenant's obligations under <u>Article 9</u> of this Lease, upon completion of any Alterations, Tenant agrees to cause a Notice of Completion to be recorded in the office of the recorder of the county in which the Building is located in accordance with Section 8182 of the California Civil Code or any successor statute and furnish a copy thereof to Landlord upon recordation, and Tenant shall deliver to the Project construction manager a reproducible copy of the "as built" drawings of the Alterations as well as all permits, approvals and other documents issued by any governmental agency in connection with the Alterations.

c. **<u>Payment for Improvements</u>**. If payment is made by Tenant directly to contractors, Tenant shall (i) comply with Landlord's requirements for final lien releases and waivers in connection with Tenant's payment for work to contractors, and (ii) sign Landlord's standard contractor's rules and regulations. If Tenant orders any work directly from Landlord, Tenant shall pay to Landlord an amount not to exceed three percent (3%) of the “hard”’ cost of such work to compensate Landlord for all overhead, general conditions, fees and other costs and expenses arising from Landlord's involvement with such work. If Tenant does not order any work directly from Landlord, Tenant shall reimburse Landlord for Landlord's reasonable, actual, out-of-pocket third party costs and expenses actually incurred in connection with Landlord's review of such work. At Landlord's reasonable discretion, prior to the commencement of construction of any Alteration, Tenant shall provide Landlord with the reasonably anticipated cost thereof, which Landlord shall disburse during construction pursuant to Landlord's standard, commercially reasonable disbursement procedure.

d. **<u>Construction Insurance</u>**. In addition to the requirements of <u>Article 10</u> of this Lease, in the event that Tenant makes any Alterations, prior to the commencement of such Alterations, Tenant shall provide Landlord with evidence that Tenant or Tenant’s contractor carries "Builder's All Risk" insurance in an amount approved by Landlord covering the construction of such Alterations, and such other insurance as Landlord may reasonably require, it being understood and agreed that all of such Alterations shall be insured by Tenant pursuant to <u>Article 10</u> of this Lease immediately upon completion thereof. In addition, Landlord may, in its discretion, require Tenant to obtain a lien and completion bond or some alternate form of security reasonably satisfactory to Landlord in an amount sufficient to ensure the lien-free completion of such Alterations and naming Landlord as a co-obligee.

e. **Landlord's Property**. All Alterations, improvements, fixtures, equipment and/or appurtenances which may be installed or placed in or about the Premises, from time to time, shall be at the sole cost of Tenant and, except as otherwise expressly set forth hereinbelow, shall be and become the property of Landlord. Notwithstanding the foregoing and absent any written notice from Landlord to the contrary, prior to the end of the Lease Term or any earlier termination of this Lease, Tenant, at Tenant's expense, shall remove any Alterations and/or improvements and/or systems and equipment within the Premises made by or for Tenant that are not normal and customary general improvements for comparable buildings in the vicinity of the Building, and shall repair any damage to the Premises and Building caused by such removal and return the affected portion of the Premises to a building standard tenant improved condition as reasonably determined by Landlord; provided, however, Landlord may, by written notice to Tenant prior to the end of the Lease Term, notify Tenant that some or all of such Alterations and/or improvements and/or systems and equipment shall remain within the Premises, in which event Tenant shall have no obligation or right to remove the same. If Tenant fails to complete such removal and/or to repair any damage caused by the removal of any such Alterations and/or improvements and/or systems and equipment in the Premises and return the affected portion of the Premises to a building standard tenant improved condition as reasonably determined by Landlord, (i) Landlord may do so and may charge the cost thereof to Tenant, and (ii) Tenant shall be deemed to be in holdover until such time as the removal and restoration is completed (and, accordingly, the terms of Article 16 of this Lease shall be applicable during such period). Tenant hereby protects, defends, indemnifies and holds Landlord harmless from any liability, cost, obligation, expense or claim of lien in any manner relating to the installation, placement, removal or financing of any such Alterations, improvements, fixtures and/or equipment in, on or about the Premises, which obligations of Tenant shall survive the expiration or earlier termination of this Lease, except to the extent caused by Landlord's gross negligence or willful misconduct, or that of its agents, employees or contractors.

ARTICLE 9.

COVENANT AGAINST LIENS

Tenant shall keep the Project and Premises free from any liens or encumbrances arising out of the work performed, materials furnished or obligations incurred by or on behalf of Tenant, and shall protect, defend, indemnify and hold Landlord harmless from and against any claims, liabilities, judgments or costs (including, without limitation, reasonable attorneys' fees and costs) arising out of same or in connection therewith. Tenant shall give Landlord notice at least twenty (20) days prior to the commencement of any such work on the Premises or the Project (or such additional time as may be necessary under applicable laws) to afford Landlord the opportunity of posting and recording appropriate notices of non-responsibility. Tenant shall remove any such lien or encumbrance by bond or otherwise within ten (10) business days after notice by Landlord, and if Tenant shall fail to do so, Landlord may pay the amount necessary to remove such lien or encumbrance, without being responsible for investigating the validity thereof. The amount so paid shall be deemed Additional Rent under this Lease payable within thirty (30) days after receipt of written demand, without limitation as to other remedies available to Landlord under this Lease. Nothing contained in this Lease shall authorize Tenant to do any act which shall subject Landlord's title to the Building or Premises to any liens or encumbrances whether claimed by operation of law or express or implied contract. Any claim to a lien or encumbrance upon the Building or Premises arising in connection with any such work or respecting the Premises not performed by or at the request of Landlord shall be null and void, or at Landlord's option shall attach only against Tenant's interest in the Premises and shall in all respects be subordinate to Landlord's title to the Project, Building and Premises.

ARTICLE 10.

INSURANCE

a. **Indemnification and Waiver**. Except to the extent caused by the gross negligence or willful misconduct of any Landlord Party, Tenant hereby assumes all risk of damage to property or injury to persons in, upon or about the Premises from any cause whatsoever (including, but not limited to, any personal injuries resulting from a slip and fall in, upon or about the Premises) and agrees that Landlord, its partners, subpartners and their respective officers, agents, servants, employees, and independent contractors (collectively, "**Landlord Parties**") shall not be liable for, and are hereby released from any responsibility for, any damage either to person or property or resulting from the loss of use thereof, which damage is sustained by Tenant or by other persons claiming through Tenant. Tenant shall indemnify, defend, protect, and hold harmless the Landlord Parties from any and all loss, cost, damage, expense and liability (including without limitation court costs and reasonable attorneys' fees) incurred in connection with or arising from any cause in, on or about the Premises (including, but not limited to, a slip and fall), any acts, omissions or negligence of Tenant or of any person claiming by, through or under Tenant, or of the contractors, agents, servants, employees, invitees, guests or licensees of Tenant or any such person (collectively, "**Tenant Parties**"), in, on or about the Project or any breach of the terms of this Lease, either prior to, during, or after the expiration of the Lease Term, provided that the terms of the foregoing indemnity shall not apply to the gross negligence or willful misconduct of Landlord or any Landlord Parties. Should Landlord be named as a defendant in any suit brought against Tenant in connection with or arising out of Tenant's occupancy of the Premises, Tenant shall pay to Landlord its costs and expenses incurred in such suit, including without limitation, its actual professional fees such as reasonable appraisers', accountants' and attorneys' fees. The provisions of this Section 10.1 shall survive the expiration or sooner termination of this Lease with respect to any claims or liability arising in connection with any event occurring prior to such expiration or termination.

b. **Tenant's Compliance With Landlord's Fire and Casualty Insurance**. Tenant shall, at Tenant's expense, comply with all insurance company requirements pertaining to the use of the Premises. If Tenant's conduct or use of the Premises causes any increase in the premium for such insurance policies then Tenant shall reimburse Landlord for any such increase. Tenant, at Tenant's expense, shall comply with all rules, orders, regulations or requirements of the American Insurance Association (formerly the National Board of Fire Underwriters) and with any similar body.

c. **Tenant's Insurance**. Tenant shall maintain the following coverages in the following amounts.

i..**Commercial General Liability Insurance**. Tenant shall maintain commercial general liability insurance, excess liability insurance and/or umbrella liability insurance covering the insured against claims of bodily injury, personal injury and property damage (including loss of use thereof) arising out of Tenant's operations, and contractual liabilities (covering the performance by Tenant of its indemnity agreements) including a Broad Form endorsement covering the insuring provisions of this Lease and the performance by Tenant of the indemnity agreements set forth in Section 10.1 of this Lease, for limits of liability not less than (and, in the case of umbrella liability insurance, with dedicated limits covering the Premises of not less than):

Bodily Injury and Property Damage Liability	$5,000,000 each occurrence $5,000,000 annual aggregate
Personal Injury Liability	$5,000,000 each occurrence $5,000,000 annual aggregate with no deductible
Umbrella Liability Coverage	$25,000,000 each occurrence $25,000,000 annual aggregate

ii..**Pollution Liability Insurance**. Tenant shall maintain pollution liability insurance covering the insured against claims of bodily injury, personal injury and property damage (including cost of clean-up, containment, restoration, removal or remediation) arising out of the use, storage, treatment, transportation, release, or disposal of any Hazardous Substances on or about the Premises during the Lease Term and on or about the Project outside of the Premises by Tenant or any Tenant Parties, for limits of liability not less than $5,000,000 per occurrence and $5,000,000 annual aggregate.

iii..**Property Insurance**. "All Risk" Property Insurance covering (i) all office furniture, business and trade fixtures, office equipment, free-standing cabinet work, movable partitions, merchandise and all other items of Tenant's property on the Premises installed by, for, or at the expense of Tenant, (ii) any improvements which exist in the Premises as of the Lease Commencement Date (excluding the Base Building) (the "**Original Improvements**"), and (iii) all other improvements, alterations and additions to the Premises. Such insurance shall be for the full replacement cost (subject to reasonable deductible amounts) new without deduction for depreciation of the covered items and in amounts that meet any co-insurance clauses of the policies of insurance and shall include coverage for damage or other loss caused by fire or other peril including, but not limited to, vandalism and malicious mischief, theft, water damage of any type, including sprinkler leakage, bursting or stoppage of pipes, and explosion, and providing business interruption coverage for a period of one year.

iv..Worker's Compensation pursuant to all applicable state and local statutes and regulations; and Employer's Liability with a limit of $1,000,000 each occurrence.

v..Business interruption, loss of income and extra expense insurance in amounts sufficient to pay for Tenant's expenses and lost income attributable to perils commonly insured against by prudent tenants or attributable to prevention of access to the Premises as a result of such perils.

d. **Form of Policies**. The minimum limits of policies of insurance required of Tenant under this Lease shall in no event limit the liability of Tenant under this Lease. Such insurance shall (i) name Landlord, and any other party the Landlord so specifies, as an additional insured, including Landlord's managing agent, if any; (ii) specifically cover the liability assumed by Tenant under this Lease, including, but not limited to, Tenant's obligations under Section 10.1 of this Lease; (iii) be issued by an insurance company having a rating of not less than A-X in Best's Insurance Guide or which is otherwise acceptable to Landlord and licensed to do business in the State of California; (iv) be primary insurance as to all claims thereunder and provide that any insurance carried by Landlord is excess and is non-contributing with any insurance requirement of Tenant; (v) be in form and content reasonably acceptable to Landlord; and (vi) provide that said insurance shall not be canceled or coverage changed unless thirty (30) days' prior written notice shall have been given to Landlord and any mortgagee of Landlord. Tenant shall deliver said policy or policies (or, if Tenant is unable to timely deliver said policy(ies), certificates thereof) to Landlord on or before the Lease Commencement Date and before the expiration dates thereof (and Tenant's failure to deliver any such policy, policies or certificates on or before the Lease Commencement Date shall not impact or in any way affect Tenant's obligations to pay Rent under this Lease). In the event Tenant shall fail to procure such insurance, or to deliver such policies or certificate, Landlord may, at its option, procure such policies for the account of Tenant, and the cost thereof shall be paid to Landlord within five (5) days after delivery to Tenant of bills therefor.

e. **Subrogation**. Landlord and Tenant intend that their respective property loss risks shall be borne by reasonable insurance carriers to the extent above provided, and, except with respect to any applicable deductible amounts, Landlord and Tenant hereby agree to look solely to, and seek recovery only from, their respective insurance carriers in the event of a property loss to the extent that such coverage is agreed to be provided hereunder. The parties each hereby waive all rights and claims against each other for such losses (except with respect to any applicable deductible amounts), and waive all rights of subrogation of their respective insurers, provided such waiver of subrogation shall not affect the right to the insured to recover thereunder. The parties agree that their respective insurance policies are now, or shall be, endorsed such that the waiver of subrogation shall not affect the right of the insured to recover thereunder, so long as no material additional premium is charged therefor.

f. **Additional Insurance Obligations**. Tenant shall carry and maintain during the entire Lease Term, at Tenant's sole cost and expense, increased amounts of the insurance required to be carried by Tenant pursuant to this Article 10 and such other reasonable types of insurance coverage and in such reasonable amounts covering the Premises and Tenant's operations therein, as may be reasonably requested by Landlord, but in no event in excess of the amounts and types of insurance then being required by landlords of buildings comparable to and in the vicinity of the Building.

g. **Property Insurance**. Subject to the terms and conditions herein, Property Insurance shall be obtained by Landlord or by Tenant as provided for below.

i..**Obtained by Landlord**. Throughout the Lease Term, except as set forth in Section 10.7.2, below, Landlord shall purchase and keep in force, and Tenant shall pay to Landlord (or Landlord's agent if so directed by Landlord), as Additional Rent and in accordance with Article 4 of this Lease, the cost of, policy or policies of insurance (the "**Property Insurance**") covering loss or damage to the Building and Project (including the deductibles on insurance claims) in the amount of the full replacement value thereof, providing protection against those perils included within the classification of "all risks" "special form" insurance, including fire, lightning, vandalism, malicious mischief, and extended perils, plus a policy of rental income insurance in the amount of one hundred (100%) percent of twelve (12) months Base Rent, plus sums paid as Additional Rent, and, at Landlord's option, earthquake coverage. The insurance that Landlord may carry under this Lease shall have materially the same coverages, premiums and deductibles, as applicable, as the insurance that Landlord carries on other properties owned by Landlord or its affiliated entities in the vicinity of the Building or commercially comparable vicinities.

ii.. **<u>Obtained by Tenant</u>**.

1... Notwithstanding the terms of <u>Section 10.7.1</u>, above, Tenant shall have the right, in Tenant's sole discretion from time to time during the Lease Term, subject to providing not less than ninety (90) days advance written notice to Landlord, to elect to maintain the Property Insurance in lieu of the Landlord; provided, however, that once Tenant elects to maintain such coverage, such election must be continued for a period of at least twenty-four (24) months. Tenant may elects to stop carrying such coverage by giving not less than ninety (90) days prior written notice thereof to Landlord, in which event Landlord shall again procure the coverage required by the terms of <u>Section 10.7.1</u>, above. Once Tenant has stopped carrying the Property Insurance, it may not elect to again maintain the same for a period of twenty-four (24) months. The Property Insurance carried by Tenant shall comply with the following.

(a) Tenant shall maintain policy or policies of insurance covering loss or damage to the Building and Project in the amount of the full replacement value thereof, providing protection against those perils included within the classification of "all risks" "special form" insurance, including fire, lightning, vandalism, malicious mischief, and extended perils.

(b) Tenant shall maintain coverage for rental income insurance in the amount of one hundred (100%) percent of twelve (12) months Base Rent, plus sums paid as Additional Rent.

(c) Landlord and its mortgagees will be included as Loss Payees on all such insurance, as their interests may appear.

(d) If the Landlord's mortgagees require that a separate policy or policies of flood insurance be maintained, Tenant shall comply with such requirement. In such event, Landlord and its mortgagees will be included as Loss Payees as their interests may appear on such policy or policies.

2... During any and all periods during which Tenant elects to maintain the Property Insurance, Landlord shall not be liable or responsible for any deductible or other retention of liability under the Property Insurance. In the event of any loss or damage which is insured under such Property Insurance, Tenant shall pay over to Landlord, within ten (10) business days of demand, the full amount of any applicable deductible or retention. Tenant's obligation to pay over such amounts shall apply under any and all circumstances, including, without limitation, any termination of this Lease by Landlord or Tenant on account of any damage, destruction or loss occurring to the Premises or Building, and such obligation shall survive termination of this Lease with respect to loss or damage occurring prior to termination of this Lease.

3... During any and all periods during which Tenant elects to maintain the Property Insurance, if any portion of the Premises, Building or Project is damaged or destroyed by a cause that is required to be insured against by the Property Insurance, then in addition to any proceeds or other payments received by Landlord under the applicable Property Insurance on account of such damage or destruction, Tenant agrees to pay to Landlord the amount, if any, by which the total cost of rebuilding or restoring such portion of the Premises, Building or Project to the same standard and quality, with the same construction and material, to the extent available, as existed prior to the loss or damage exceeds the insurance proceeds received by Landlord, as if the underinsured loss or deductible amounts were self-insured by Tenant. Tenant's obligation to make such payment or payments to Landlord shall apply under any and all circumstances, including without limitation any termination of this Lease by Landlord or Tenant on account of any damage, destruction or loss occurring to the Premises, Building or Project pursuant to the provisions of this Lease or otherwise, and such obligation shall survive any termination of this Lease with respect to loss or damage occurring prior to the termination of this Lease.

4... In the event that Tenant elects to procure the Property Insurance, the provisions of this Lease (including, without limitation, Article 11) relating to the respective rights and obligations of Landlord and Tenant in the event of damage to or destruction of the Premises, Building or Project (the "**Damage Provisions**"), shall be modified and supplemented in the following respects for so long as Tenant maintains such Property Insurance or self-insurance, and in the event of any inconsistency or conflict between the Damage Provisions and the following provisions of this Section 10.7.2.4, the provisions of this Section 10.7.2.4 shall govern and control:

(a) Tenant shall not have the right to terminate this Lease on account of any damage to or destruction of the Premises, the Building or the Project if the risk which is the cause of such damage or destruction is required to be covered by the Property Insurance, whether or not such risk is in fact covered by such policy or policies.

(b) During the period for which Landlord is receiving payments pursuant to any Rental Insurance coverage procured by Tenant, Tenant shall be entitled to an equitable reduction of the Rent allocable to the damaged or destroyed portion of the Premises in an amount equal to the Rental Insurance policy payments received by Landlord.

10.8 **Landlord's Commercial General Liability Insurance**. Landlord shall obtain and keep in force a policy of commercial general liability insurance with coverage against such risks and in such amounts as Landlord deems advisable insuring Landlord against liability arising out of the ownership or operation and management of the Project.

ARTICLE 11.

DAMAGE AND DESTRUCTION

a. **Repair of Damage to Premises by Landlord**. Tenant shall promptly notify Landlord of any damage to the Premises resulting from fire or any other casualty. If the Premises shall be damaged by fire or other casualty, Landlord shall promptly and diligently, subject to reasonable delays for insurance adjustment or other matters beyond Landlord's reasonable control, and subject to all other terms of this Article 11, restore the Base Building. To the extent that such damage occurs during a period in which Tenant has elected to carry the Property Insurance, Tenant shall cause its insurer to pay the applicable insurance proceeds to Landlord, and shall otherwise make the payments required, as set forth in Section 10.7.2, above. Such restoration shall be to substantially the same condition of the Base Building prior to the casualty, except for modifications required by zoning and building codes and other laws or by the holder of a mortgage on the Building or Project or any other modifications to the exterior portions of the Project deemed desirable by Landlord, which are consistent with the character of the Project, provided that access to the Premises shall not be materially impaired. Upon the occurrence of any damage to the Premises, upon notice (the "**Landlord Repair Notice**") to Tenant from Landlord, Tenant shall assign to Landlord (or to any party designated by Landlord) all insurance proceeds payable to Tenant under Tenant's insurance required under Sections 10.3 and 10.7, as applicable, of this Lease, and Landlord shall repair any injury or damage to the Original Improvements installed in the Premises and shall return such Original Improvements to their original condition; provided that if the cost of such repair by Landlord exceeds the amount of insurance proceeds received by Landlord from Tenant's insurance carrier, as assigned by Tenant, the cost of such repairs shall be paid by Tenant to Landlord prior to Landlord's commencement of repair of the damage. In the event that Landlord does not deliver the Landlord Repair Notice within sixty (60) days following the date the casualty becomes known to Landlord, Tenant shall, at its sole cost and expense, repair any injury or damage to the Original Improvements installed in the Premises and shall return such Original Improvements to their original condition. Whether or not Landlord delivers a Landlord Repair Notice, prior to the commencement of construction, Tenant shall submit to Landlord, for Landlord's review and approval, all plans, specifications and working drawings relating thereto; and if Landlord delivers a Landlord Repair Notice, then Landlord shall select the contractors to perform such improvement work.

Landlord shall not be liable for any inconvenience or annoyance to Tenant or its visitors, or injury to Tenant's business resulting in any way from such damage or the repair thereof; provided however, that if such fire or other casualty shall have damaged the Premises or Tenant's access thereto, and the Premises are not occupied by Tenant as a result thereof, then during the time and to the extent the Premises are unfit for occupancy, the Rent shall be abated in proportion to the ratio that the amount of rentable square feet of the Premises which is unfit for occupancy for the purposes permitted under this Lease bears to the total rentable square feet of the Premises. In the event that Landlord shall not deliver the Landlord Repair Notice, Tenant's right to rent abatement pursuant to the preceding sentence shall terminate as of the date which is reasonably determined by Landlord to be the date Tenant should have completed repairs to the Premises assuming Tenant used reasonable due diligence in connection therewith. Notwithstanding the foregoing, if such damage occurs during a period in which Tenant has elected to carry the Property Insurance, then Tenant's right to abatement of Rent shall be governed by the terms of Section 10.7.2.4(b), above.

b. **Landlord's Option to Repair**. Notwithstanding the terms of Section 11.1 of this Lease, Landlord may elect not to rebuild and/or restore the Premises, Building and/or Project, and instead terminate this Lease, by notifying Tenant in writing of such termination within sixty (60) days after the date of discovery of the damage, such notice to include a termination date giving Tenant sixty (60) days to vacate the Premises, but Landlord may so elect only if the Building or Project shall be damaged by fire or other casualty or cause, whether or not the Premises are affected, and one or more of the following conditions is present: (i) in Landlord's reasonable judgment, repairs cannot reasonably be completed within one hundred eighty (180) days after the date of discovery of the damage (when such repairs are made without the payment of overtime or other premiums); (ii) the holder of any mortgage on the Building or Project or ground lessor with respect to the Building or Project shall require that the insurance proceeds or any portion thereof be used to retire the mortgage debt, or shall terminate the ground lease, as the case may be; (iii) the damage is not fully covered by Landlord's insurance policies; (iv) [intentionally omitted]; (v) the damage occurs during the last twelve (12) months of the Lease Term; or (vi) [intentionally omitted]; provided, however, that if Landlord does not elect to terminate this Lease pursuant to Landlord's termination right as provided above, and the repairs cannot, in the reasonable opinion of Landlord, be completed within one hundred eighty (180) days after being commenced, or if the damage occurs during the last twelve (12) months of the Term, Tenant may elect, no earlier than sixty (60) days after the date of the damage and not later than ninety (90) days after the date of such damage, to terminate this Lease by written notice to Landlord effective as of the date specified in the notice, which date shall not be less than thirty (30) days nor more than sixty (60) days after the date such notice is given by Tenant.

c. **Waiver of Statutory Provisions**. The provisions of this Lease, including this Article 11, constitute an express agreement between Landlord and Tenant with respect to any and all damage to, or destruction of, all or any part of the Premises, the Building or the Project, and any statute or regulation of the State of California, including, without limitation, Sections 1932(2) and 1933(4) of the California Civil Code, with respect to any rights or obligations concerning damage or destruction in the absence of an express agreement between the parties, and any other statute or regulation, now or hereafter in effect, shall have no application to this Lease or any damage or destruction to all or any part of the Premises, the Building or the Project.

ARTICLE 12.

NONWAIVER

No provision of this Lease shall be deemed waived by either party hereto unless expressly waived in a writing signed thereby. The waiver by either party hereto of any breach of any term, covenant or condition herein contained shall not be deemed to be a waiver of any subsequent breach of same or any other term, covenant or condition herein contained. The subsequent acceptance of Rent hereunder by Landlord shall not be deemed to be a waiver of any preceding breach by Tenant of any term, covenant or condition of this Lease, other than the failure of Tenant to pay the particular Rent so accepted, regardless of Landlord's knowledge of such preceding breach at the time of acceptance of such Rent. No acceptance of a lesser amount than the Rent herein stipulated shall be deemed a waiver of Landlord's right to receive the full amount due, nor shall any endorsement or statement on any check or payment or any letter accompanying such check or payment be deemed an accord and satisfaction, and Landlord may accept such check or payment without prejudice to Landlord's right to recover the full amount due. No receipt of monies by Landlord from Tenant after the termination of this Lease shall in any way alter the length of the Lease Term or of Tenant's right of possession hereunder, or after the giving of any notice shall reinstate, continue or extend the Lease Term or affect any notice given Tenant prior to the receipt of such monies, it being agreed that after the service of notice or the commencement of a suit, or after final judgment for possession of the Premises, Landlord may receive and collect any Rent due, and the payment of said Rent shall not waive or affect said notice, suit or judgment.

ARTICLE 13.

CONDEMNATION

If the whole or any part of the Premises, Building or Project shall be taken by power of eminent domain or condemned by any competent authority for any public or quasi-public use or purpose, or if any adjacent property or street shall be so taken or condemned, or reconfigured or vacated by such authority in such manner as to require the use, reconstruction or remodeling of any part of the Premises, Building or Project, or if Landlord shall grant a deed or other instrument in lieu of such taking by eminent domain or condemnation, Landlord shall have the option to terminate this Lease effective as of the date possession is required to be surrendered to the authority. If more than twenty-five percent (25%) of the rentable square feet of the Premises is taken, or if access to the Premises is substantially impaired, in each case for a period in excess of one hundred eighty (180) days, Tenant shall have the option to terminate this Lease effective as of the date possession is required to be surrendered to the authority. Tenant shall not because of such taking assert any claim against Landlord or the authority for any compensation because of such taking and Landlord shall be entitled to the entire award or payment in connection therewith, except that Tenant shall have the right to file any separate claim available to Tenant for any taking of Tenant's personal property and fixtures belonging to Tenant and removable by Tenant upon expiration of the Lease Term pursuant to the terms of this Lease, and for moving expenses and relocation costs, so long as such claims do not diminish the award available to Landlord, its ground lessor with respect to the Building or Project or its mortgagee, and such claim is payable separately to Tenant. All Rent shall be apportioned as of the date of such termination. If any part of the Premises shall be taken, and this Lease shall not be so terminated, the Rent shall be proportionately abated. Tenant hereby waives any and all rights it might otherwise have pursuant to Section 1265.130 of The California Code of Civil Procedure. Notwithstanding anything to the contrary contained in this Article 13, in the event of a temporary taking of all or any portion of the Premises for a period of one hundred and eighty (180) days or less, then this Lease shall not terminate but the Base Rent and the Additional Rent shall be abated for the period of such taking in proportion to the ratio that the amount of rentable square feet of the Premises taken bears to the total rentable square feet of the Premises. Landlord shall be entitled to receive the entire award made in connection with any such temporary taking.

ARTICLE 14.

ASSIGNMENT AND SUBLETTING

a. **Transfers**. Tenant shall not, without the prior written consent of Landlord (which may be withheld in Landlord's sole discretion), assign, mortgage, pledge, hypothecate, encumber, or permit any lien to attach to, or otherwise transfer, this Lease or any interest hereunder, permit any assignment, or other transfer of this Lease or any interest hereunder by operation of law, sublet the Premises or any part thereof, or enter into any license or concession agreements or otherwise permit the occupancy or use of the Premises or any part thereof by any persons other than Tenant and its employees and contractors (all of the foregoing are hereinafter sometimes referred to collectively as "**Transfers**" and any person to whom any Transfer is made or sought to be made is hereinafter sometimes referred to as a "**Transferee**"). If Tenant desires Landlord's consent to any Transfer, Tenant shall notify Landlord in writing, which notice (the "**Transfer Notice**") shall include (i) the proposed effective date of the Transfer, which shall not be less than thirty (30) days nor more than one hundred eighty (180) days after the date of delivery of the Transfer Notice, (ii) a description of the portion of the Premises to be transferred (the "**Subject Space**"), (iii) all of the terms of the proposed Transfer and the consideration therefor, including calculation of the "Transfer Premium," as that term is defined in Section 14.3 below, in connection with such Transfer, the name and address of the proposed Transferee, and a copy of all existing executed and/or proposed documentation pertaining to the proposed Transfer, including all existing operative documents to be executed to evidence such Transfer or the agreements incidental or related to such Transfer, provided that Landlord shall have the right to require Tenant to utilize Landlord's standard Transfer documents in connection with the documentation of such Transfer, (iv) current financial statements of the proposed Transferee for the past two (2) years, including balance sheets, statements of profits and losses, and business credit reports, each certified by an officer, partner or owner thereof, history of the proposed Transferee and any other information reasonably required by Landlord which will enable Landlord to determine the financial responsibility, character, and reputation of the proposed Transferee, nature of such Transferee's business and proposed use of the Subject Space, and (v) an executed estoppel certificate from Tenant in form acceptable to Landlord. Any Transfer made without Landlord's prior written consent shall, at Landlord's option, be null, void and of no effect, and shall, at Landlord's option, constitute a default by Tenant under this Lease. Whether or not Landlord consents to any proposed Transfer, Tenant shall pay Landlord's reasonable review and processing fees, as well as all actual, out-of-pocket professional fees (including, without limitation, attorneys', accountants', architects', engineers' and consultants' fees) incurred by Landlord, within thirty (30) days after receipt of written request by Landlord; provided, that such attorneys' fees shall not exceed $4,000.00 in the ordinary course.

b. **Landlord's Consent**. Landlord may, in its sole discretion, withhold its consent to any proposed Transfer. If Landlord consents to any Transfer (and does not exercise any recapture rights Landlord may have under Section 14.4 of this Lease), Tenant may within six (6) months after Landlord's consent, but not later than the expiration of said six-month period, enter into such Transfer of the Premises or portion thereof, upon substantially the same terms and conditions as are set forth in the Transfer Notice furnished by Tenant to Landlord pursuant to Section 14.1 of this Lease, provided that if there are any changes in the terms and conditions from those specified in the Transfer Notice, Tenant shall again submit the Transfer to Landlord for its approval and other action under this Article 14 (including Landlord's right of recapture, if any, under Section 14.4 of this Lease).

c. **Transfer Premium**. If Landlord consents to a Transfer, as a condition thereto which the parties hereby agree is reasonable, Tenant shall pay to Landlord one hundred percent (100%) of any "Transfer Premium," as that term is defined in this Section 14.3, received by Tenant from such Transferee. "**Transfer Premium**" shall mean all rent, additional rent or other consideration payable by such Transferee in connection with the Transfer in excess of the Rent and Additional Rent payable by Tenant under this Lease during the term of the Transfer on a per rentable square foot basis if less than all of the Premises is transferred. "Transfer Premium" shall also include, but not be limited to, key money, bonus money or other cash consideration paid by Transferee to Tenant in connection with such Transfer, and any payment in excess of fair market value for services rendered by Tenant to Transferee or for assets, fixtures, inventory, equipment, or furniture transferred by Tenant to Transferee in connection with such Transfer. The determination of the amount of Landlord's applicable share of the Transfer Premium shall be made on a monthly basis as rent or other consideration is received by Tenant under the Transfer.

d. **Landlord's Option as to Subject Space**. Notwithstanding anything to the contrary contained in this Article 14, in the event Tenant contemplates a Transfer of all or a portion of the Premises, Tenant shall give Landlord notice (the "**Intention to Transfer Notice**") of such contemplated Transfer (whether or not the contemplated Transferee or the terms of such contemplated Transfer have been determined). The Intention to Transfer Notice shall specify the portion of and amount of rentable square feet of the Premises which Tenant intends to Transfer (the "**Contemplated Transfer Space**"), the contemplated date of commencement of the Contemplated Transfer (the "**Contemplated Effective Date**"), and the contemplated length of the term of such contemplated Transfer, and shall specify that such Intention to Transfer Notice is delivered to Landlord pursuant to this Section 14.4 in order to allow Landlord to elect to recapture the Contemplated Transfer Space. Thereafter, Landlord shall have the option, by giving written notice to Tenant within twenty (20) days after receipt of any Intention to Transfer Notice, to recapture the Contemplated Transfer Space. Such recapture shall cancel and terminate this Lease with respect to such Contemplated Transfer Space as of the Contemplated Effective Date. In the event of a recapture by Landlord, if this Lease shall be canceled with respect to less than the entire Premises, the Rent reserved herein shall be prorated on the basis of the number of rentable square feet retained by Tenant in proportion to the number of rentable square feet contained in the Premises, and this Lease as so amended shall continue thereafter in full force and effect, and upon request of either party, the parties shall execute written confirmation of the same. If Landlord declines to recapture such Contemplated Transfer Space under this Section 14.4, then, subject to the other terms of this Article 14, for a period of nine (9) months (the "**Nine Month Period**") commencing on the last day of such thirty (30) day period, Landlord shall not have any right to recapture the Contemplated Transfer Space with respect to any Transfer made during the Nine Month Period, provided that any such Transfer is substantially on the terms set forth in the Intention to Transfer Notice, and provided further that any such Transfer shall be subject to the remaining terms of this Article 14. If such a Transfer is not so consummated within the Nine Month Period (or if a Transfer is so consummated, then upon the expiration of the term of any Transfer of such Contemplated Transfer Space consummated within such Nine Month Period), Tenant shall again be required to submit a new Intention to Transfer Notice to Landlord with respect any contemplated Transfer, as provided above in this Section 14.4. Notwithstanding anything to the contrary contained in this Lease, if Landlord elects to exercise its recapture right pursuant to this Section 14.4, Tenant shall have the right, by written notice to Landlord within five (5) business days after receipt of Landlord's recapture notice, to rescind its request for consent to the Transfer, in which case Landlord's recapture right shall be deemed null and void and of no further force or effect.

e. **Effect of Transfer**. If Landlord consents to a Transfer, (i) the terms and conditions of this Lease shall in no way be deemed to have been waived or modified, (ii) such consent shall not be deemed consent to any further Transfer by either Tenant or a Transferee, (iii) Tenant shall deliver to Landlord, promptly after execution, an original executed copy of all documentation pertaining to the Transfer in form reasonably acceptable to Landlord, (iv) Tenant shall furnish upon Landlord's request a complete statement, certified by an independent certified public accountant, or Tenant's chief financial officer, setting forth in detail the computation of any Transfer Premium Tenant has derived and shall derive from such Transfer, and (v) no Transfer relating to this Lease or agreement entered into with respect thereto, whether with or without Landlord's consent, shall relieve Tenant or any guarantor of the Lease from any liability under this Lease, including, without limitation, in connection with the Subject Space. Landlord or its authorized representatives, upon reasonable prior notice, shall have the right at all reasonable times to audit the books, records and papers of Tenant relating to any Transfer, and shall have the right to make copies thereof. If the Transfer Premium respecting any Transfer shall be found understated, Tenant shall, within thirty (30) days after receipt of written demand, pay the deficiency, and if understated by more than one percent (1%), Tenant shall pay Landlord's costs of such audit. In addition, at Landlord's option, Tenant's understatement of the Transfer Premium shall constitute an uncurable default of this Lease by Tenant without the necessity of any written notice or passage of any cure period.

f. **Additional Transfers**. For purposes of this Lease, the term "Transfer" shall also include (i) if Tenant is a partnership, the withdrawal or change, voluntary, involuntary or by operation of law, of fifty percent (50%) or more of the partners, or transfer of fifty percent (50%) or more of partnership interests, within a twelve (12)-month period, or the dissolution of the partnership without immediate reconstitution thereof, and (ii) if Tenant is a closely held corporation (*i.e.*, whose stock is not publicly held and not traded through an exchange or over the counter), (A) the dissolution, merger, consolidation or other reorganization of Tenant or (B) the sale or other transfer of an aggregate of fifty percent (50%) or more of the voting shares of Tenant (other than to immediate family members by reason of gift or death), within a twelve (12)-month period, or (C) the sale, mortgage, hypothecation or pledge of an aggregate of fifty percent (50%) or more of the value of the unencumbered assets of Tenant within a twelve (12)-month period; provided, however, that the provisions of this Article 14 shall not apply to the transfer (by one or more transfers), directly or indirectly, by operation of law or otherwise, of a majority of the stock or other beneficial ownership interest in Tenant if and so long as Tenant is publicly traded on a nationally recognized stock exchange (including any initial public offering on such nationally recognized stock exchanges).

g. **Occurrence of Default**. Any Transfer hereunder shall be subordinate and subject to the provisions of this Lease, and if this Lease shall be terminated during the term of any Transfer, Landlord shall have the right to: (i) treat such Transfer as cancelled and repossess the Subject Space by any lawful means, or (ii) require that such Transferee attorn to and recognize Landlord as its landlord under any such Transfer. If Tenant shall be in default under this Lease, Landlord is hereby irrevocably authorized, as Tenant's agent and attorney-in-fact, to direct any Transferee to make all payments under or in connection with the Transfer directly to Landlord (which Landlord shall apply towards Tenant's obligations under this Lease) until such default is cured. Such Transferee shall rely on any representation by Landlord that Tenant is in default hereunder, without any need for confirmation thereof by Tenant. Upon any assignment, the assignee shall assume in writing all obligations and covenants of Tenant thereafter to be performed or observed under this Lease. No collection or acceptance of rent by Landlord from any

Transferee shall be deemed a waiver of any provision of this Article 14 or the approval of any Transferee or a release of Tenant from any obligation under this Lease, whether theretofore or thereafter accruing. In no event shall Landlord's enforcement of any provision of this Lease against any Transferee be deemed a waiver of Landlord's right to enforce any term of this Lease against Tenant or any other person. If Tenant's obligations hereunder have been guaranteed, Landlord's consent to any Transfer shall not be effective unless the guarantor also consents to such Transfer.

14.8 **Permitted Transfers**. Notwithstanding anything to the contrary contained in this Article 14, Tenant shall be entitled to assign this Lease, without the requirement of obtaining Landlord’s consent, to (each such person or entity, a “**Permitted Transferee**,” and each such transaction, a “**Permitted Transfer**”): (a) a successor entity related to Tenant in connection with a merger, consolidation or non-bankruptcy reorganization; (b) any entity that controls, is controlled by or is under common control with Tenant (with “control” for the purposes of this subsection (b) to mean not less than fifty-one percent (51%) equity ownership of any entity together with the power to direct the management decisions thereof); or (c) any person or entity which acquires all or substantially all of the assets of Tenant; provided, however, that (i) for any assignment, such assignee has a net worth (calculated in accordance with GAAP) equal to or exceeding the net worth of Tenant as of the date hereof or the effective date of the Permitted Transfer, whichever is greater; (ii) Tenant provides not less than twenty-one (21) days prior written notice of any Permitted Transfer, including financial information reasonably satisfactory to Landlord evidencing compliance with the foregoing net worth requirement, (iii) within ten (10) days after any Permitted Transfer, Tenant delivers to Landlord a copy of the assignment wherein the Permitted Transferee assumes all of Tenant’s obligations under the Lease, and (iv) Tenant complies with all other requirements under this Article 14 other than the requirement of obtaining Landlord’s prior written consent for any assignment meeting the requirements of a Permitted Transfer.

ARTICLE 15.

SURRENDER OF PREMISES; OWNERSHIP AND REMOVAL OF TRADE FIXTURES

a. **Surrender of Premises**. No act or thing done by Landlord or any agent or employee of Landlord during the Lease Term shall be deemed to constitute an acceptance by Landlord of a surrender of the Premises unless such intent is specifically acknowledged in writing by Landlord. The delivery of keys to the Premises to Landlord or any agent or employee of Landlord shall not constitute a surrender of the Premises or effect a termination of this Lease, whether or not the keys are thereafter retained by Landlord, and notwithstanding such delivery Tenant shall be entitled to the return of such keys at any reasonable time upon request until this Lease shall have been properly terminated. The voluntary or other surrender of this Lease by Tenant, whether accepted by Landlord or not, or a mutual termination hereof, shall not work a merger, and at the option of Landlord shall operate as an assignment to Landlord of all subleases or subtenancies affecting the Premises or terminate any or all such subleases or subtenancies.

b. **Removal of Tenant Property by Tenant**. Upon the expiration of the Lease Term, or upon any earlier termination of this Lease, Tenant shall, subject to the provisions of this Article 15, quit and surrender possession of the Premises to Landlord in the condition set forth in Section 13.5 of that certain Lease dated as of April 5, 2005, as amended by the terms and conditions of that certain Restoration Agreement dated as of December 16, 2010 (the “**Restoration Agreement**”), by and between the parties' predecessors-in-interest, which Restoration Agreement is attached as **Exhibit B** hereto. Upon such expiration or termination, Tenant shall, without expense to Landlord, remove or cause to be removed from the Premises all debris and rubbish, and such items of furniture, equipment, business and trade fixtures, free-standing cabinet work, movable partitions and other articles of personal property owned by Tenant or installed or placed by Tenant at its expense in the Premises, and such similar articles of any other persons claiming under Tenant, as Landlord may, in its sole discretion, require to be removed, and Tenant shall repair at its own expense all damage to the Premises and Building resulting from such removal.

ARTICLE 16.

HOLDING OVER

If Tenant holds over after the expiration of the Lease Term or earlier termination thereof, with or without the express or implied consent of Landlord, such tenancy shall be from month-to-month only, and shall not constitute a renewal hereof or an extension for any further term, and in such case Base Rent shall be payable at a monthly rate equal to three hundred percent (300%) of the Base Rent applicable during the last rental period of the Lease Term under this Lease. Tenant also shall continue to pay all Additional Rent payable pursuant to this Lease. Such month-to-month tenancy shall be subject to every other applicable term, covenant and agreement contained herein. Nothing contained in this Article 16 shall be construed as consent by Landlord to any holding over by Tenant, and Landlord expressly reserves the right to require Tenant to surrender possession of the Premises to Landlord as provided in this Lease upon the expiration or other termination of this Lease. The provisions of this Article 16 shall not be deemed to limit or constitute a waiver of any other rights or remedies of Landlord provided herein or at law. If Tenant fails to surrender the Premises upon the termination or expiration of this Lease, in addition to any other liabilities to Landlord accruing therefrom, Tenant shall be liable for all injury and damage to, or interference with, Landlord's business, including, but not limited to, any claim for indirect, consequential or punitive damages, including, without limitation, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, in each case, however occurring, and Tenant shall protect, defend, indemnify and hold Landlord harmless from all loss, costs (including reasonable attorneys' fees) and liability resulting from such failure, including, without limiting the generality of the foregoing, any claims made by any succeeding tenant founded upon such failure to surrender.

ARTICLE 17.

ESTOPPEL CERTIFICATES

Within seven (7) business days following receipt of a request in writing by Landlord, Tenant shall execute, acknowledge and deliver to Landlord an estoppel certificate in form delivered by and acceptable to Landlord (or such other form as may be required by any prospective mortgagee or purchaser of the Project, or any portion thereof), indicating therein any exceptions thereto that may exist at that time, and shall also contain any other information reasonably requested by Landlord or Landlord's mortgagee or prospective mortgagee. Any such certificate may be relied upon by any prospective mortgagee or purchaser of all or any portion of the Project. Tenant shall execute and deliver whatever other instruments may be reasonably required for such purposes. At any time during the Lease Term, Landlord may require Tenant to provide Landlord with a current financial statement (including a balance sheet, statement of profits and losses, and a business credit report) and such financial statements of the two (2) years prior to the current financial statement year. Such statements shall be prepared in accordance with generally accepted accounting principles and, if such is the normal practice of Tenant, shall be audited by an independent certified public accountant. Failure of Tenant to timely execute, acknowledge and deliver such estoppel certificate or other instruments shall constitute an acceptance of the Premises and an acknowledgment by Tenant that statements included in the estoppel certificate are true and correct, without exception. Landlord shall use good faith efforts to keep such information received from Tenant confidential, except that Landlord may disclose such financial information received from Tenant to its accountants, attorneys and other professional consultants, to any lender or prospective lender for, or purchaser or prospective purchaser of, the Building, the Project or any direct or indirect interest in Landlord, as reasonably necessary in the course of any litigation arising out of or concerning this Lease, or as required by applicable law, and provided however that the foregoing confidentiality requirement shall be inapplicable in the event the subject financial information is publicly available.

ARTICLE 18.

SUBORDINATION

This Lease shall be subject and subordinate to all present and future ground or underlying leases of the Building or Project and to the lien of any mortgage, trust deed or other encumbrances now or hereafter in force against the Building or Project or any part thereof, if any, and to all renewals, extensions, modifications, consolidations and replacements thereof, and to all advances made or hereafter to be made upon the security of such mortgages or trust deeds, unless the holders of such mortgages, trust deeds or other encumbrances, or the lessors under such ground lease or underlying leases, require in writing that this Lease be superior thereto. Tenant covenants and agrees in the event any proceedings are brought for the foreclosure of any such mortgage or deed in lieu thereof (or if any ground lease is terminated), to attorn, without any deductions or set-offs whatsoever, to the lienholder or purchaser or any successors thereto upon any such foreclosure sale or deed in lieu thereof (or to the ground lessor), if so requested to do so by such purchaser or lienholder or ground lessor, and to recognize such purchaser or lienholder or ground lessor as the lessor under this Lease, provided such lienholder or purchaser or ground lessor shall agree to accept this Lease and not disturb Tenant's occupancy, so long as Tenant timely pays the rent and observes and performs the terms, covenants and conditions of this Lease to be observed and performed by Tenant. Landlord's interest herein may be assigned as security at any time to any lienholder; provided, Landlord will endeavor to provide Tenant with notice of such an assignment within ten (10) business days following the effective date of same (but failure to provide such notice shall not be deemed a default by Landlord under this Lease). Tenant shall, within seven (7) business days of receipt of request by Landlord, execute such further instruments or assurances as Landlord may reasonably deem necessary to evidence or confirm the subordination or superiority of this Lease to any such mortgages, trust deeds, ground leases or underlying leases. Tenant waives the provisions of any current or future statute, rule or law which may give or purport to give Tenant any right or election to terminate or otherwise adversely affect this Lease and the obligations of the Tenant hereunder in the event of any foreclosure proceeding or sale.

ARTICLE 19.

DEFAULTS; REMEDIES

a. **Events of Default**. The occurrence of any of the following shall constitute a default of this Lease by Tenant:

i..Any failure by Tenant to pay any Rent or any other charge required to be paid under this Lease, or any part thereof, when due (provided that, for the first (1st) late payment of Rent during any 12 month period, Tenant shall be entitled to a grace period of 5 days after written notice by Landlord to Tenant that such amount is past due before such failure to pay shall constitute an Event of Default); or

ii..Except where a specific time period is otherwise set forth for Tenant's performance in this Lease, in which event the failure to perform by Tenant within such time period shall be a default by Tenant under this Section 19.1.2, any failure by Tenant to observe or perform any other provision, covenant or condition of this Lease to be observed or performed by Tenant where such failure continues for thirty (30) days after written notice thereof from Landlord to Tenant; provided that if the nature of such default is such that the same cannot reasonably be cured within a thirty (30) day period, Tenant shall not be deemed to be in default if it diligently commences such cure within such period and thereafter diligently proceeds to rectify and cure such default; or

iii..Abandonment or vacation of all or a substantial portion of the Premises by Tenant while Tenant is in default of any other obligation hereunder; or

iv..The failure by Tenant to observe or perform according to the provisions of Articles 5, 14, 17 or 18 of this Lease where such failure continues for more than three (3) business days after notice from Landlord.

The notice periods provided herein are in lieu of, and not in addition to, any notice periods provided by law.

b. **Remedies Upon Default**. Upon the occurrence of any event of default by Tenant, Landlord shall have, in addition to any other remedies available to Landlord at law or in equity (all of which remedies shall be distinct, separate and cumulative), the option to pursue any one or more of the following remedies, each and all of which shall be cumulative and nonexclusive, without any notice or demand whatsoever.

i..Terminate this Lease, in which event Tenant shall immediately surrender the Premises to Landlord, and if Tenant fails to do so, Landlord may, without prejudice to any other remedy which it may have for possession or arrearages in rent, enter upon and take possession of the Premises and expel or remove Tenant and any other person who may be occupying the Premises or any part thereof, without being liable for prosecution or any claim or damages therefor; and Landlord may recover from Tenant the following:

(i)The worth at the time of award of the unpaid rent which has been earned at the time of such termination; plus

(ii)The worth at the time of award of the amount by which the unpaid rent which would have been earned after termination until the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iii)The worth at the time of award of the amount by which the unpaid rent for the balance of the Lease Term after the time of award exceeds the amount of such rental loss that Tenant proves could have been reasonably avoided; plus

(iv)Any other amount necessary to compensate Landlord for all the detriment proximately caused by Tenant's failure to perform its obligations under this Lease or which in the ordinary course of things would be likely to result therefrom, specifically including but not limited to, brokerage commissions and advertising expenses incurred, expenses of remodeling the Premises or any portion thereof for a new tenant, whether for the same or a different use, and any special concessions made to obtain a new tenant; and

(v)At Landlord's election, such other amounts in addition to or in lieu of the foregoing as may be permitted from time to time by applicable law.

The term "**rent**" as used in this Section 19.2 shall be deemed to be and to mean all sums of every nature required to be paid by Tenant pursuant to the terms of this Lease, whether to Landlord or to others. As used in Sections 19.2.1(i) and (ii), above, the "worth at the time of award" shall be computed by allowing interest at the rate (the "**Interest Rate**") of ten percent (10%) per annum, but in no case greater than the maximum amount of such interest permitted by law. As used in Section 19.2.1(iii) above, the "**worth at the time of award**" shall be computed by discounting such amount at the discount rate of the Federal Reserve Bank of San Francisco at the time of award plus one percent (1%).

ii..[Intentionally omitted.]

iii..Landlord shall at all times have the rights and remedies (which shall be cumulative with each other and cumulative and in addition to those rights and remedies available under Sections 19.2.1 and 19.2.2, above, or any law or other provision of this Lease), without prior demand or notice except as required by applicable law, to seek any declaratory, injunctive or other equitable relief, and specifically enforce this Lease, or restrain or enjoin a violation or breach of any provision hereof.

c. **Subleases of Tenant**. Whether or not Landlord elects to terminate this Lease on account of any default by Tenant, as set forth in this Article 19, Landlord shall have the right to terminate any and all subleases, licenses, concessions or other consensual arrangements for possession entered into by Tenant and affecting the Premises or may, in Landlord's sole discretion, succeed to Tenant's interest in such subleases, licenses, concessions or arrangements. In the event of Landlord's election to succeed to Tenant's interest in any such subleases, licenses, concessions or arrangements, Tenant shall, as of the date of notice by Landlord of such election, have no further right to or interest in the rent or other consideration receivable thereunder.

d. **Efforts to Relet**. No re-entry or repossession, repairs, maintenance, changes, alterations and additions, reletting, appointment of a receiver to protect Landlord's interests hereunder, or any other action or omission by Landlord shall be construed as an election by Landlord to terminate this Lease or Tenant's right to possession, or to accept a surrender of the Premises, nor shall same operate to release Tenant in whole or in part from any of Tenant's obligations hereunder, unless express written notice of such intention is sent by Landlord to

Tenant. Tenant hereby irrevocably waives any right otherwise available under any law to redeem or reinstate this Lease.

ARTICLE 20.

COVENANT OF QUIET ENJOYMENT

Landlord covenants that Tenant, on paying the Rent, charges for services and other payments herein reserved and on keeping, observing and performing all the other terms, covenants, conditions, provisions and agreements herein contained on the part of Tenant to be kept, observed and performed, shall, during the Lease Term, peaceably and quietly have, hold and enjoy the Premises subject to the terms, covenants, conditions, provisions and agreements hereof without interference by any persons lawfully claiming by or through Landlord. The foregoing covenant is in lieu of any other covenant express or implied.

ARTICLE 21.

LETTER OF CREDIT

a. **Delivery of Letter of Credit**. Within ten (10) business days following Tenant's execution and delivery of this Lease, Tenant shall deliver to Landlord, concurrently with Tenant's execution of this Lease, an unconditional, clean, irrevocable letter of credit (the "**LC**") in the amount set forth in Section 21.3 below (the "**LC Amount**"), which LC shall be issued by a money-center, solvent and nationally recognized bank (a bank which accepts deposits, maintains accounts, has a local Santa Clara County office which will negotiate a letter of credit, and whose deposits are insured by the FDIC) reasonably acceptable to Landlord (such approved, issuing bank being referred to herein as the "**Bank**"), which Bank must have a short term Fitch Rating which is not less than "F1", and a long term Fitch Rating which is not less than "A"(or in the event such Fitch Ratings are no longer available, a comparable rating from Standard and Poor's Professional Rating Service or Moody's Professional Rating Service) (collectively, the "**Bank's Credit Rating Threshold**"), and which LC shall be in the form of **Exhibit C** attached hereto. Landlord hereby approves Wells Fargo Bank N.A. as the Bank. Tenant shall pay all expenses, points and/or fees incurred by Tenant in obtaining the LC. The LC shall (i) be "callable" at sight, irrevocable and unconditional, (ii) be maintained in effect, whether through renewal or extension, for the period commencing on the date of this Lease and continuing until the date (the "**LC Expiration Date**") that is no less than ninety (90) days after the expiration of the Lease Term, and Tenant shall deliver a new LC or certificate of renewal or extension to Landlord at least sixty (60) days prior to the expiration of the LC then held by Landlord, without any action whatsoever on the part of Landlord, (iii) be fully assignable by Landlord, its successors and assigns, (iv) permit partial draws and multiple presentations and drawings, and (v) be otherwise subject to the International Standby Practices-ISP 98, International Chamber of Commerce Publication #590. Landlord, or its then managing agent, shall have the right to draw down an amount up to the face amount of the LC if any of the following shall have occurred or be applicable: (A) such amount is due to Landlord under the terms and conditions of this Lease, or (B) Tenant has filed a voluntary petition under the U. S. Bankruptcy Code or any state bankruptcy code (collectively, "**Bankruptcy Code**"), or (C) an involuntary petition has been filed against Tenant under the Bankruptcy Code, or (D) the Lease has been rejected, or is deemed rejected, under Section 365 of the U.S. Bankruptcy Code, following the filing of a voluntary petition by Tenant under the Bankruptcy Code, or the filing of an involuntary petition against Tenant under the Bankruptcy Code, or (E) the Bank has notified Landlord that the LC will not be renewed or extended through the LC Expiration Date, or (F) Tenant is placed into receivership or conservatorship, or becomes subject to similar proceedings under Federal or State law, or (G) Tenant executes an assignment for the benefit of creditors, or (H) if (1) any of the Bank's Fitch Ratings (or other comparable ratings to the extent the Fitch Ratings are no longer available) have been reduced below the Bank's Credit Rating Threshold, or (2) there is otherwise a material adverse change in the financial condition of the Bank, and Tenant has failed to provide Landlord with a replacement letter of credit, conforming in all respects to the requirements of this Article 21 (including, but not limited to, the requirements placed on the issuing Bank more particularly set forth in this Section 21.1 above), in the amount of the applicable LC Amount, within ten (10) days following receipt of Landlord's written demand therefor (with no other notice or cure or grace period being applicable thereto, notwithstanding anything in this Lease to the contrary) (each of the foregoing being an "**LC Draw Event**"). The LC shall be honored by the Bank regardless of whether Tenant disputes Landlord's right to draw upon the LC, and regardless of any discrepancies between the L-C and this Lease. In addition, in the event the Bank is placed into receivership or conservatorship by the Federal Deposit Insurance Corporation or any successor or similar entity, then, effective as of the date such receivership or conservatorship occurs, said LC shall be deemed to fail to meet the requirements of this Article 21, and, within ten (10) days following Landlord's notice to Tenant of such receivership or conservatorship (the "**LC FDIC Replacement Notice**"), Tenant shall replace such LC with a substitute letter of credit from a different issuer (which issuer shall meet or exceed the Bank's Credit Rating Threshold and shall otherwise be acceptable to Landlord in its reasonable discretion) and that complies in all respects with the requirements of this Article 21. If Tenant fails to replace such LC with such conforming, substitute letter of credit pursuant to the terms and conditions of this Section 21.1, then, notwithstanding anything in this Lease to the contrary, Landlord shall have the right to declare Tenant in default of this Lease for which there shall be no notice or grace or cure periods being applicable thereto (other than the aforesaid ten (10) day period). Tenant shall be responsible for the payment of any and all costs incurred with the review of any replacement LC (including without limitation Landlord’s reasonable attorneys’ fees), which replacement is required pursuant to this Section or is otherwise requested by Tenant. In the event of an assignment by Tenant of its interest in the Lease (and irrespective of whether Landlord's consent is required for such assignment), the acceptance of any replacement or substitute letter of credit by Landlord from the assignee shall be subject to Landlord's prior written approval, in Landlord's sole and absolute discretion, and the attorney's fees incurred by Landlord in connection with such determination shall be payable by Tenant to Landlord within thirty (30) days after receipt of billing.

b. **Application of LC**. Tenant hereby acknowledges and agrees that Landlord is entering into this Lease in material reliance upon the ability of Landlord to draw upon the LC upon the occurrence of any LC Draw Event. In the event of any LC Draw Event, Landlord may, but without obligation to do so, and without notice to Tenant (except in connection with an L-C Draw Event under Section 21.1(H) above), draw upon the LC, in part or in whole, to cure any such L-C Draw Event and/or to compensate Landlord for any and all damages of any kind or nature sustained or which Landlord reasonably estimates that it will sustain resulting from Tenant's breach or default of the Lease or other L-C Draw Event and/or to compensate Landlord for any and all damages arising out of, or incurred in connection with, the termination of this Lease, including, without limitation, those specifically identified in Section 1951.2 of the California Civil Code. The use, application or retention of the LC, or any portion thereof, by Landlord shall not prevent Landlord from exercising any other right or remedy provided by this Lease or by any applicable law, it being intended that Landlord shall not first be required to proceed against the LC, and such LC shall not operate as a limitation on any recovery to which Landlord may otherwise be entitled. Tenant agrees not to interfere in any way with payment to Landlord of the proceeds of the LC, either prior to or following a "draw" by Landlord of any portion of the LC, regardless of whether any dispute exists between Tenant and Landlord as to Landlord's right to draw upon the LC. No condition or term of this Lease shall be deemed to render the LC conditional to justify the issuer of the LC in failing to honor a drawing upon such LC in a timely manner. Tenant agrees and acknowledges that (i) the LC constitutes a separate and independent contract between Landlord and the Bank, (ii) Tenant is not a third party beneficiary of such contract, (iii) Tenant has no property interest whatsoever in the LC or the proceeds thereof, and (iv) in the event Tenant becomes a debtor under any chapter of the Bankruptcy Code, Tenant is placed into receivership or conservatorship, and/or there is an event of a receivership, conservatorship or a bankruptcy filing by, or on behalf of, Tenant, neither Tenant, any trustee, nor Tenant's bankruptcy estate shall have any right to restrict or limit Landlord's claim and/or rights to the LC and/or the proceeds thereof by application of Section 502(b)(6) of the U. S. Bankruptcy Code or otherwise.

c. **L-C Amount; Maintenance of L-C by Tenant; Liquidated Damages**.

21.3.1 **L-C Amount**. The L-C Amount shall be equal to the amount set forth in Section 9 of the Summary.

21.3.2 **In General**. If, as a result of any drawing by Landlord of all or any portion of the L-C, the amount of the L-C shall be less than the L-C Amount, Tenant shall, within five (5) days thereafter, provide Landlord with additional letter(s) of credit in an amount equal to the deficiency, and any such additional letter(s) of credit shall comply with all of the provisions of this Article 21, and if Tenant fails to comply with the foregoing, the same shall be subject to the terms of Section 21.3.3 below. Tenant further covenants and warrants that it will neither assign nor encumber the L-C or any part thereof and that neither Landlord nor its successors or assigns will be bound by any such assignment, encumbrance, attempted assignment or attempted encumbrance. Without limiting the generality of the foregoing, if the L-C expires earlier than the LC Expiration Date, Landlord will accept a renewal thereof (such renewal letter of credit to be in effect and delivered to Landlord, as applicable, not later than sixty (60) days prior to the expiration of the L-C), which shall be irrevocable and automatically renewable as above provided through the LC Expiration Date upon the same terms as the expiring LC or such other terms as may be acceptable to Landlord in its sole discretion. However, if the LC is not timely renewed, or if Tenant fails to maintain the LC in the amount and in accordance with the terms set forth in this Article 21, Landlord shall have the right to either (x) present the LC to the Bank in accordance with the terms of this Article 21, and the proceeds of the L-C may be applied by Landlord against any Rent payable by Tenant under this Lease that is not paid when due and/or to pay for all losses and damages that Landlord has suffered or that Landlord reasonably estimates that it will suffer as a result of any breach or default by Tenant under this Lease, or (y) pursue its remedy under Section 21.3.3 below. In the event Landlord elects to exercise its rights under the foregoing item (x), (I) any unused proceeds shall constitute the property of Landlord (and not Tenant's property or, in the event of a receivership, conservatorship, or a bankruptcy filing by, or on behalf of, Tenant, property of such receivership, conservatorship or Tenant's bankruptcy estate) and need not be segregated from Landlord's other assets, and (II) Landlord agrees to pay to Tenant within thirty (30) days after the LC Expiration Date the amount of any proceeds of the L-C received by Landlord and not applied against any Rent payable by Tenant under this Lease that was not paid when due or used to pay for any losses and/or damages suffered by Landlord (or reasonably estimated by Landlord that it will suffer) as a result of any breach or default by Tenant under this Lease; provided, however, that if prior to the LC Expiration Date a voluntary petition is filed by Tenant, or an involuntary petition is filed against Tenant by any of Tenant's creditors, under the Bankruptcy Code, then Landlord shall not be obligated to make such payment in the amount of the unused L-C proceeds until either all preference issues relating to payments under this Lease have been resolved in such bankruptcy or reorganization case or such bankruptcy or reorganization case has been dismissed.

21.3.3 **FAILURE TO MAINTAIN; REPLACE AND/OR REINSTATE LC; LIQUIDATED DAMAGES**. IN THE EVENT THAT TENANT FAILS, WITHIN (I) THAT PERIOD SET FORTH IN SECTION 21.3.2 ABOVE, OR (II) THAT PERIOD SET FORTH IN THE L-C FDIC Replacement Notice, TO provide Landlord with additional l-c(s) in an amount equal to the deficiency OR A REPLACEMENT L-C (AS APPLICABLE), THEN TENANT'S MONTHLY INSTALLMENT OF BASE RENT SHALL BE INCREASED BY ONE HUNDRED FIFTY PERCENT (150%) OF ITS THEN EXISTING LEVEL DURING THE PERIOD COMMENCING ON THE DATE WHICH IS THE LAST DAY OF THE PERIOD IDENTIFIED IN SECTION 21.3.2 OR THE L-C FDIC Replacement Notice (AS APPLICABLE), AND ENDING ON THE EARLIER TO OCCUR OF (X) THE DATE TENANT PROVIDES Landlord with additional l-c(s) in an amount equal to the deficiency AS CONTEMPLATED BY THE TERMS OF SECTION 21.3.2 ABOVE, OR THE L-C FDIC Replacement Notice (AS APPLICABLE), OR (Y) THE DATE WHICH IS NINETY (90) DAYS AFTER THE LAST DAY OF THE PERIOD IDENTIFIED IN SECTION 21.3.2 OR THE L-C FDIC Replacement Notice (AS APPLICABLE). IN THE EVENT THAT TENANT FAILS, DURING SUCH NINETY (90) DAY PERIOD FOLLOWING THE LAST DAY OF THE PERIOD IDENTIFIED IN SECTION 21.3.2 OR THE L-C FDIC Replacement Notice (AS APPLICABLE), TO provide Landlord with additional l-c(s) in an amount equal to the deficiency OR A REPLACEMENT L-C (AS APPLICABLE), THEN TENANT'S MONTHLY INSTALLMENT OF BASE RENT SHALL BE INCREASED BY TWO HUNDRED PERCENT (200%) OF ITS THEN EXISTING LEVEL DURING THE PERIOD COMMENCING ON THE DATE WHICH IS NINETY (90) DAYS AFTER THE LAST DAY OF THE PERIOD IDENTIFIED IN SECTION 21.3.2 OR THE L-C FDIC Replacement Notice (AS APPLICABLE) AND ENDING ON THE DATE SUCH additional l-c(s) ARE ISSUED in an amount equal to the deficiency OR SUCH A REPLACEMENT LC IS ISSUED (AS APPLICABLE) PURSUANT TO THE TERMS OF SECTION 21.3.2 OR THE L-C FDIC Replacement Notice (AS APPLICABLE). THE PARTIES AGREE THAT IT WOULD BE IMPRACTICABLE AND EXTREMELY DIFFICULT TO ASCERTAIN THE ACTUAL DAMAGES SUFFERED BY LANDLORD AS A RESULT OF TENANT'S FAILURE TO TIMELY provide Landlord with additional l-c(s) in an amount equal to the deficiency AS REQUIRED IN SECTION 21.3.2, OR A REPLACEMENT L-C AS CONTEMPLATED BY THE L-C FDIC Replacement Notice (AS APPLICABLE), AND THAT UNDER THE CIRCUMSTANCES EXISTING AS OF THE DATE OF THIS LEASE, THE LIQUIDATED DAMAGES PROVIDED FOR IN THIS SECTION 21.3.3 REPRESENT A REASONABLE ESTIMATE OF THE

DAMAGES WHICH LANDLORD WILL INCUR AS A RESULT OF SUCH FAILURE, PROVIDED, HOWEVER, THAT THIS PROVISION SHALL NOT WAIVE OR AFFECT LANDLORD'S RIGHTS AND TENANT'S INDEMNITY OBLIGATIONS UNDER OTHER SECTIONS OF THIS LEASE (EXCEPT THAT THE PARTIES SPECIFICALLY AGREE THAT THE FOREGOING PROVISION WAS AGREED TO IN LIEU OF MAKING TENANT'S FAILURE TO provide Landlord with additional l-c(s) in an amount equal to the deficiency or a replacement l-c (as applicable) A DEFAULT UNDER THIS LEASE). THE PARTIES ACKNOWLEDGE THAT THE PAYMENT OF SUCH LIQUIDATED DAMAGES IS NOT INTENDED AS A FORFEITURE OR PENALTY WITHIN THE MEANING OF CALIFORNIA CIVIL CODE SECTION 3275 OR 3369, BUT IS INTENDED TO CONSTITUTE LIQUIDATED DAMAGES TO LANDLORD PURSUANT TO CALIFORNIA CIVIL CODE SECTION 1671. THE PARTIES HAVE SET FORTH THEIR INITIALS BELOW TO INDICATE THEIR AGREEMENT WITH THE LIQUIDATED DAMAGES PROVISION CONTAINED IN THIS SECTION 21.3.3.

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LANDLORD'S INITIALS TENANT'S INITIALS

d. **Transfer and Encumbrance**. The L-C shall also provide that Landlord may, at any time and without notice to Tenant and without first obtaining Tenant's consent thereto, transfer (one or more times) all or any portion of its interest in and to the L-C to another party, person or entity, regardless of whether or not such transfer is from or as a part of the assignment by Landlord of its rights and interests in and to this Lease. In the event of a transfer of Landlord's interest in under this Lease, Landlord shall transfer the L-C, in whole or in part, to the transferee and thereupon Landlord shall, without any further agreement between the parties, be released by Tenant from all liability therefor, and it is agreed that the provisions hereof shall apply to every transfer or assignment of the whole of said L-C to a new landlord. In connection with any such transfer of the L-C by Landlord, Tenant shall, at Tenant's sole cost and expense, execute and submit to the Bank such applications, documents and instruments as may be necessary to effectuate such transfer and, Tenant shall be responsible for paying the Bank's transfer and processing fees in connection therewith; provided that, Landlord shall have the right (in its sole discretion), but not the obligation, to pay such fees on behalf of Tenant, in which case Tenant shall reimburse Landlord within thirty (30) days after Tenant's receipt of an invoice from Landlord therefor.

e. **L-C Not a Security Deposit**. Landlord and Tenant (1) acknowledge and agree that in no event or circumstance shall the LC or any renewal thereof or substitute therefor or any proceeds thereof be deemed to be or treated as a "security deposit" under any law applicable to security deposits in the commercial context, including, but not limited to, Section 1950.7 of the California Civil Code, as such Section now exists or as it may be hereafter amended or succeeded (the "**Security Deposit Laws**"), (2) acknowledge and agree that the LC (including any renewal thereof or substitute therefor or any proceeds thereof) is not intended to serve as a security deposit, and the Security Deposit Laws shall have no applicability or relevancy thereto, and (3) waive any and all rights, duties and obligations that any such party may now, or in the future will, have relating to or arising from the Security Deposit Laws. Tenant hereby irrevocably waives and relinquishes the provisions of Section 1950.7 of the California Civil Code and any successor statute, and all other provisions of law, now or hereafter in effect, which (x) establish the time frame by which a landlord must refund a security deposit under a lease, and/or (y) provide that a landlord may claim from a security deposit only those sums reasonably necessary to remedy defaults in the payment of rent, to repair damage caused by a tenant or to clean the premises, it being agreed that Landlord may, in addition, claim those sums specified in this Article 21 and/or those sums reasonably necessary to (a) compensate Landlord for any loss or damage caused by Tenant's breach of this Lease, including any damages Landlord suffers following termination of this Lease, and/or (b) compensate Landlord for any and all damages arising out of, or incurred in connection with, the termination of this Lease, including, without limitation, those specifically identified in Section 1951.2 of the California Civil Code.

f. **Non-Interference By Tenant**. Tenant agrees not to interfere in any way with any payment to Landlord of the proceeds of the L-C, either prior to or following a "draw" by Landlord of all or any portion of the L-C, regardless of whether any dispute exists between Tenant and Landlord as to Landlord's right to draw down all or any portion of the L-C. No condition or term of this Lease shall be deemed to render the LC conditional and thereby afford the Bank a justification for failing to honor a drawing upon such L-C in a timely manner. Tenant shall not request or instruct the Bank of any LC to refrain from paying sight draft(s) drawn under such LC.

g. **Waiver of Certain Relief**. Tenant unconditionally and irrevocably waives (and as an independent covenant hereunder, covenants not to assert) any right to claim or obtain any of the following relief in connection with the LC:

(a) A temporary restraining order, temporary injunction, permanent injunction, or other order that would prevent, restrain or restrict the presentment of sight drafts drawn under any LC or the Bank's honoring or payment of sight draft(s); or

(b) Any attachment, garnishment, or levy in any manner upon either the proceeds of any LC or the obligations of the Bank (either before or after the presentment to the Bank of sight drafts drawn under such LC) based on any theory whatever.

h. **Remedy for Improper Drafts**. Tenant's sole remedy in connection with the improper presentment or payment of sight drafts drawn under any LC shall be the right to obtain from Landlord a refund of the amount of any sight draft(s) that were improperly presented or the proceeds of which were misapplied, together with interest at the Interest Rate and reasonable actual out-of-pocket attorneys' fees, provided that at the time of such refund, Tenant increases the amount of such LC to the amount (if any) then required under the applicable provisions of this Lease. Tenant acknowledges that the presentment of sight drafts drawn under any LC, or the Bank's payment of sight drafts drawn under such LC, could not under any circumstances cause Tenant injury that could not be remedied by an award of money damages, and that the recovery of money damages would be an adequate remedy therefor. In the event Tenant shall be entitled to a refund as aforesaid and Landlord shall fail to make such payment within ten (10) business days after demand, Tenant shall have the right to deduct the amount thereof together with interest thereon at the Interest Rate from the next installment(s) of Base Rent.

ARTICLE 22.

INTENTIONALLY OMITTED

ARTICLE 23.

SIGNS

a. **Full Floors**. Subject to Landlord's prior written approval, in its sole discretion, and provided all signs are in keeping with the quality, design and style of the Building and Project, Tenant, if the Premises comprise an entire floor of the Building, at its sole cost and expense, may install identification signage anywhere in the Premises including in the elevator lobby of the Premises, provided that such signs must not be visible from the exterior of the Building.

b. **Multi-Tenant Floors**. If other tenants occupy space on the floor on which the Premises is located, Tenant's identifying signage shall be provided by Landlord, at Tenant's cost, and such signage shall be comparable to that used by Landlord for other similar floors in the Building and shall comply with Landlord's then-current Building standard signage program.

c. **Prohibited Signage and Other Items**. Any signs, notices, logos, pictures, names or advertisements which are installed and that have not been separately approved by Landlord may be removed without notice by Landlord at the sole expense of Tenant. Tenant may not install any signs on the exterior or roof of the Project or the Common Areas. Any signs, window coverings, or blinds (even if the same are located behind the Landlord-approved window coverings for the Building), or other items visible from the exterior of the Premises or Building, shall be subject to the prior approval of Landlord, in its sole discretion.

d. **Current Signage**. Notwithstanding anything to the contrary contained in this Article 23, Tenant shall be entitled to maintain all of Tenant's signage in place on the date of this Lease.

ARTICLE 24.

COMPLIANCE WITH LAW

Tenant shall not do anything or suffer anything to be done in or about the Premises or the Project which will in any way conflict with any law, statute, ordinance or other governmental rule, regulation or requirement now in force or which may hereafter be enacted or promulgated. At its sole cost and expense, Tenant shall promptly comply with all such governmental measures. Should any standard or regulation now or hereafter be imposed on Landlord or Tenant by a state, federal or local governmental body charged with the establishment, regulation and enforcement of occupational, health or safety standards for employers, employees, landlords or tenants, then Tenant agrees, at its sole cost and expense, to comply promptly with such standards or regulations. Tenant shall be responsible, at its sole cost and expense, to make all alterations to the Premises as are required to comply with the governmental rules, regulations, requirements or standards described in this Article 24. The judgment of any court of competent jurisdiction or the admission of Tenant in any judicial action, regardless of whether Landlord is a party thereto, that Tenant has violated any of said governmental measures, shall be conclusive of that fact as between Landlord and Tenant. Notwithstanding anything to the contrary contained in this Lease, Tenant shall not be required to construct or pay the cost of complying with any Laws requiring construction of improvements to the Premises or to any other portion of the Building or Project unless such requisite compliance is the result of or triggered by Tenant's (or any of Tenant's agents', employees' or invitees') use or occupancy of the Premises, or any Alterations to the Premises made by or on behalf of Tenant. For purposes of Section 1938(a) of the California Civil Code, Landlord hereby discloses to Tenant, and Tenant hereby acknowledges, that the Premises have not undergone inspection by a person certified as a Certified Access Specialist (CASp). In addition, the following notice is hereby provided pursuant to Section 1938(e) of the California Civil Code: "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." In furtherance of and in connection with such notice: (i) Tenant, having read such notice and understanding Tenant's right to request and obtain a CASp inspection and with advice of counsel, hereby elects not to obtain such CASp inspection and forever waives its rights to obtain a CASp inspection with respect to the Premises, the Building, the Property and/or the Project to the extent permitted by applicable laws now or hereafter in effect; and (ii) if the waiver set forth in clause (i) hereinabove is not enforceable pursuant to applicable laws now or hereafter in effect, then Landlord and Tenant hereby agree as follows (which constitute the mutual agreement of the parties as to the matters described in the last sentence of the foregoing notice): (A) Tenant shall have the one-time right to request for and obtain a CASp inspection, which request must be made, if at all, in a written notice delivered by Tenant to Landlord within thirty (30) days after the Lease Commencement Date; (B) any CASp inspection timely requested by Tenant shall be conducted (1) between the hours of 9:00 a.m. and 5:00 p.m. on any business day, (2) only after ten (10) days' prior written notice to Landlord of the date of such CASp inspection, (3) in a professional manner by a CASp designated by Landlord and without any testing that would damage the Premises, the Building, the Property or the Project in any way, (4) in accordance with all of the provisions of this Lease applicable to Tenant contracts for construction, and (5) at Tenant's sole cost and expense, including, without limitation, Tenant's payment of the fee for such CASp inspection, the fee for any reports and/or certificates prepared by the CASp in connection with such CASp inspection (collectively, the "**CASp Reports**") and all other costs and expenses in connection therewith; (C) Landlord shall be an express third party beneficiary of Tenant's contract with the CASp, and any CASp Reports shall be addressed to both Landlord and Tenant; (D) Tenant shall deliver a copy of any CASp Reports to Landlord within two (2) business days after Tenant's receipt thereof; (E) any information generated by the CASp inspection and/or contained in the CASp Reports shall not be disclosed by Tenant to anyone other than (I) contractors, subcontractors and/or consultants of Tenant, in each instance who have a need to know such information and who agree in writing not to further disclose such information, or (II) any governmental entity, agency or other person, in each instance to whom disclosure is required by law or by regulatory or judicial process; (F) Tenant, at its sole cost and expense, shall be responsible for making any improvements, alterations, modifications and/or repairs to or within the Premises to correct violations of construction-related accessibility standards, including, without limitation, any violations disclosed by such CASp inspection; and (G) if such CASp inspection identifies any improvements, alterations, modifications and/or repairs necessary to correct violations of construction-related accessibility standards relating to those items of the Building, the Property and/or the Project located outside the Premises that are Landlord's obligation to repair as set forth in the Lease, then Landlord shall perform such improvements, alterations, modifications and/or repairs as and to the extent required by applicable laws to correct such violations, and Tenant shall reimburse Landlord for the cost of such improvements, alterations, modifications and/or repairs within ten (10) business days after Tenant's receipt of an invoice therefor from Landlord.

ARTICLE 25.

HAZARDOUS SUBSTANCES; MOLD CONDITIONS

a. **Prohibition Against Hazardous Substances**.

i.. **Tenant's Prohibition**. Tenant shall not cause or permit any "Hazardous Substances," as that term is defined below, to be brought upon, produced, treated, stored, used, discharged or disposed of in or near the Project without Landlord's prior written consent, which Landlord may give or withhold in its sole and absolute discretion; provided, however, that Landlord's consent shall not be required for normal use in compliance with applicable laws, ordinances, regulations and requirements of customary household and office, light manufacturing, lab and research and development supplies, including by example but without limitation, mild cleaners, lubricants and copier toner, vehicles located in loading and parking areas, data and telecommunication equipment, batteries, fuel storage tanks, and other materials used in connection with emergency or uninterrupted power supply devices, and other supplies and materials consistent with those used by Tenant in similar or comparable facilities operated by Tenant. Any handling, transportation, storage, treatment, disposal or use of any Hazardous Substances in or about the Project by Tenant, its agents, employees, contractors or invitees shall strictly comply with all applicable laws, ordinances, regulations and requirements, including "Environmental Laws," as that term is defined below. Tenant shall be solely responsible for obtaining and complying with all permits necessary for the maintenance and operation of its business, including, without limitation, all permits governing the use, handling, storage, treatment, transport, discharge and disposal of Hazardous Substances. To the extent reasonably required, Landlord shall, at no out-of-pocket cost to Landlord, reasonably cooperate with Tenant in Tenant's efforts to obtain any such permits or similar authorizations or clearances, including, without limitation, executing applications and taking any other actions required by any state, federal or local governmental body in connection with Tenant's efforts to obtain such permit. Tenant shall indemnify, defend and hold Landlord and the Landlord Parties harmless from and against any and all obligations, losses, claims actions (including remedial and enforcement actions of any king and administrative and judicial proceedings, suits, orders or judgments), causes of action, liabilities, penalties, damages (including consequential and punitive damages, diminution in value of the Premises or the Project, damages for the loss or restriction on use of leasable space or of any amenity of the Premises or the Project, damages arising from any adverse impact on marketing of space in the Project, "Remedial Work," as that term is defined below, required to be performed by Tenant, and sums paid in settlement of claims), costs and expenses (including reasonable attorneys' and consultants' fees and expenses) (collectively, "**Claims**"), which result from or arise out of the use, storage, treatment, transportation, release, or disposal of any Hazardous Substances on or about the Premises during the Lease Term and on or about the Project outside of the Premises by Tenant or any Tenant Parties. Notwithstanding the foregoing, Tenant shall have no obligation to indemnify Landlord and/or the Landlord Parties for Claims related to Hazardous Substances introduced into or released from the Premises by Landlord during the Lease Term as a result of Landlord's gross negligence or willful misconduct, except to the extent that Tenant or its agents, employees, contractors or invitees exacerbates the same.

ii.. **Landlord Inspections**. Landlord shall have the right, at any time, but not more than two (2) times in any calendar year (unless Landlord has reasonable cause to believe that Tenant has failed to fully comply with the provisions of this Article 25, or unless required by any lender or governmental agency), to inspect the Premises and

Project and conduct tests and investigations to determine whether Tenant is in compliance with the provisions of this Article 25; provided, however, that Landlord shall repair any damage caused by such inspections and testing and shall use commercially reasonable efforts to minimize interference with Tenant's use and enjoyment of the Premises. The costs of all such inspections, tests and investigations shall be borne solely by Landlord. The foregoing rights granted to Landlord shall not, however, create (a) a duty on Landlord's part to inspect, test, investigate, monitor or otherwise observe the Premises or Project or the activities of Tenant or any Tenant Party with respect to Hazardous Substances, including, but not limited to, Tenant's operation, use or remediation thereof, or (b) liability on the part of Landlord or any Landlord Party for Tenant's use, storage, treatment, transportation, release, or disposal of any Hazardous Substances, it being understood that Tenant shall be solely responsible for all liability in connection therewith.

b. **Landlord Notification**. Tenant shall promptly provide Landlord with complete copies of all documents, correspondence and other written materials directed to or from, or relating to, Tenant concerning environmental issues at the Premises or the Project, including, without limitation, documents relating to the release, potential release, investigation, compliance, cleanup and abatement of Hazardous Substances, and any claims, causes of action or other legal documents related to same. Within twenty-four (24) hours of any unauthorized release, spill or discharge of Hazardous Substances, in, on, or about the Premises or Project, Tenant shall provide written notice to Landlord fully describing the event. Tenant shall also provide Landlord with a copy of any document or correspondence submitted by or on behalf of Tenant to any regulatory agency as a result of or in connection with any unauthorized release, spill or discharge. Within twenty-four (24) hours of receipt by Tenant of any warning, notice of violation, permit suspension or similar disciplinary measure relating to Tenant's actual or alleged failure to comply with any environmental law, rule, regulation, ordinance or permit, Tenant shall provide written notice to Landlord.

c. **Remedial Work**. In the event that any Hazardous Material and/or Mold Condition is discovered by Tenant within the Premises after the date of this Lease, Tenant shall promptly notify Landlord, and shall consult with Landlord concerning appropriate procedures to be followed. If any investigation or monitoring of site conditions or any clean-up, containment, restoration, removal or remediation of Hazardous Substances (collectively, "**Remedial Work**") is required under any applicable laws, ordinances, regulations and requirements as a result of the handling, use, storage, treatment, transportation or disposal of any Hazardous Substances by Tenant, its agents, employees, contractors or invitees, then Tenant shall perform or cause to be performed the Remedial Work in compliance with applicable laws, ordinances, regulations and requirements. All Remedial Work performed by Tenant shall be performed by one or more contractors, selected by Tenant and reasonably approved in advance in writing by Landlord, and under the supervision of a consulting engineer selected by Tenant and reasonably approved in advance in writing by Landlord. Except as otherwise expressly provided in Section 25.4, below, all costs and expenses of such Remedial Work shall be paid by Tenant, including, without limitation, the charges of such contractor(s), the consulting engineer and Landlord's reasonable attorneys' and experts' fees and costs incurred in connection with monitoring or review of such Remedial Work.

d. **Pre-Existing Hazardous Substances**. Any Hazardous Substances existing in, on, under or about the Project as of the date on which Tenant first took possession of the Premises pursuant to the terms of the Existing Lease shall be referred to herein as the "**Pre-Existing Hazardous Substances**." Notwithstanding anything to the contrary contained in this Article 25, in no event shall Tenant be required to perform or pay for any Remedial Work relating to Pre-Existing Hazardous Substances in or at the Premises, except to the extent that any hazard posed by such Pre-Existing Hazardous Substances is exacerbated by, or the cost to of such Remedial Work is increased as a result of, the acts or omissions of Tenant or any Tenant Parties. Notwithstanding anything to the contrary contained in this Lease, Pre-Existing Hazardous Substances also shall include any Hazardous Substance in, on, under or about the Premises or the Project that existed thereon prior to the date Tenant first took possession of the Premises, unless the same are exacerbated by Tenant or any Tenant Parties.

e. **Hazardous Substances Disclosure Certificate**. Prior to the Lease Commencement Date, Tenant shall complete, execute and deliver to Landlord a Hazardous Substances Disclosure Certificate ("**Initial Disclosure Certificate**") in a form reasonably approved by Landlord. The completed Hazardous Substances Disclosure Certificate shall be deemed incorporated into this Lease for all purposes, and Landlord shall be entitled to rely fully on the information contained therein. Tenant shall, upon written request from Landlord, but not more frequently than once per year, and at such other times as Tenant desires to handle, produce, treat, store, use, discharge or dispose of new or additional Hazardous Substances on or about the Premises that were not listed on the Initial Disclosure Certificate, complete, execute and deliver to Landlord an updated Disclosure Certificate (each, an "**Updated Disclosure Certificate**") describing Tenant's then current and proposed future uses of Hazardous Substances on or about the Premises, which Updated Disclosure Certificates shall be in the same format as that approved by Landlord or in such reasonably similar updated format as Landlord may reasonably require from time to time. Tenant shall deliver an Updated Disclosure Certificate to Landlord not less than thirty (30) days prior to the date Tenant intends to commence the manufacture, treatment, use, storage, handle, discharge or disposal of new or additional Hazardous Substances on or about the Premises, and Landlord shall have the right, except as to those materials as to which the Landlord's consent is not required pursuant to Section 25.1.1, above, to approve or disapprove such new or additional Hazardous Substances in its sole and absolute discretion. Tenant shall make no use of Hazardous Substances on or about the Premises except as described in the Initial Disclosure Certificate or as otherwise approved by Landlord in writing in accordance with this Article 25. Tenant may designate any information provided on the Initial Disclosure Certificate or the Updated Disclosure Certificate, or otherwise provided in connection with the use or release of Hazardous Substances, as "Confidential Business Information". Landlord shall not disclose any such "Confidential Business Information" to any third party without the written consent of Tenant; provided, however, that if disclosure of such "Confidential Business Information" is required under any applicable laws, ordinances, regulations and requirements, including Environmental Laws, or any court order, Landlord shall, to the extent allowed by such applicable laws, ordinances, regulations and requirements or court order, provide Tenant at least ten (10) days' notice in advance of the proposed disclosure and shall, at no out-of-pocket cost to Landlord, reasonably cooperate with any reasonable efforts by Tenant to maintain the confidentiality of the information.

f. **Mold**.

i.. **Mold Prevention**. Because mold spores are present essentially everywhere and mold can grow in almost any moist location, Tenant acknowledges the necessity of adopting and enforcing good housekeeping practices, ventilation and vigilant moisture control within the Premises (particularly in kitchen areas, janitorial closets, bathrooms, in and around water fountains and other plumbing facilities and fixtures, break rooms, in and around outside walls, and in and around HVAC systems and associated drains) for the prevention of mold (such measures, "**Mold Prevention Practices**"). Tenant will, at its sole cost and expense keep and maintain the Building in good order and condition in accordance with the Mold Prevention Practices and acknowledges that the control of moisture, and prevention of "Mold Conditions," as defined in Section 25.6.2.1, below, within the Premises, are integral to its obligations under this Lease.

ii.. **Tenant Obligations**. Tenant, at its sole cost and expense, shall:

1... Regularly monitor the Building for the presence of mold and any conditions that reasonably can be expected to give rise or be attributed to mold or fungus including, but not limited to, observed or suspected instances of water damage, condensation, seepage, leaks or any other water penetration (from any source, internal or external), mold growth, mildew, repeated complaints of respiratory ailments or eye irritation by Tenant's employees or any other occupants of the Premises, or any notice from a governmental agency of complaints regarding the indoor air quality at the Premises (the "**Mold Conditions**"); and

2... Immediately notify Landlord in writing if it observes, suspects, has reason to believe mold or Mold Conditions at the Premises.

iii.. **Landlord Inspections**. In the event of suspected mold or Mold Conditions at the Premises, Landlord may cause an inspection of the Premises to be conducted, during such time as Landlord may designate, to determine if Mold Conditions are present at the Premises.

g. **Surrender**. Tenant shall surrender the Building to Landlord upon the expiration or earlier termination of this Lease free of (i) Mold Conditions, debris, waste, and (ii) Hazardous Substances placed on, about or near the Building by Tenant or any Tenant Parties, and in a condition which complies with all Environmental Laws and any additional requirements of Landlord that are reasonably necessary to protect the value of the Building or the Project, including, without limitation, the obtaining of any closure permits or other governmental permits or approvals related to Tenant's use of Hazardous Substances at the Premises; for the avoidance of doubt, Tenant shall have no obligations under this Section 25.7 with respect to any Pre-Existing Hazardous Substances except to the extent that Tenant or any Tenant Parties exacerbates the same after being notified in writing of the same. Tenant's obligations and liabilities pursuant to the provisions of this Article 25 shall be in addition to any other surrender requirement in this Lease and shall survive the expiration or earlier termination of this Lease (provided that, with respect to any condition that would have reasonably been discovered by a reasonable inspection of the Premises, Landlord must notify Tenant of such condition within sixty (60) days after the date of Tenant's vacation and surrender of the Premises to Landlord).

h. **Definitions**. As used in this Lease, the following terms shall be defined as follows:

i.."**Hazardous Substances**" means (1) any substance or material that is included within the definitions of "hazardous substances," "hazardous materials," "toxic substances," "pollutant," "contaminant," "hazardous waste," or "solid waste" in any Environmental Laws (as hereinafter defined); (2) petroleum or petroleum derivatives, including crude oil or any fraction thereof, all forms of natural gas, and petroleum products or by-products or waste; (3) polychlorinated biphenyls (PCB's); (4) asbestos and asbestos containing materials (whether friable or non-friable); (5) lead and lead based paint or other lead containing materials (whether friable or non-friable); (6) urea formaldehyde; (7) microbiological pollutants; (8) batteries or liquid solvents or similar chemicals; (9) radon gas; (10) mildew, fungus, mold, bacteria and/or other organic spore material, whether or not airborne, colonizing, amplifying or otherwise; and (11) any additional substance, material or waste (A) the presence of which on or about the Premises (i) requires reporting, investigation or remediation under any Environmental Laws, (ii) causes or threatens to cause a nuisance on the Premises or any adjacent area or property or poses or threatens to pose a hazard to the health or safety of persons on the Premises or any adjacent area or property, or (iii) which, if it emanated or migrated from the Premises, could constitute a trespass, or (B) which is now or is hereafter classified or considered to be hazardous or toxic under any Environmental Laws.

ii.."**Environmental Laws**" means all statutes, terms, conditions, limitations, restrictions, standards, prohibitions, obligations, schedules, plans and timetables that are contained in or promulgated pursuant to any federal, state or local laws (including rules, regulations, ordinances, codes, judgments, orders, decrees, contracts, permits, stipulations, injunctions, the common law, court opinions, and demand or notice letters issued, entered, promulgated or approved thereunder), relating to pollution or the protection of the environment, including laws relating to emissions, discharges, releases or threatened releases of Hazardous Substances into ambient air, surface water, ground water or lands or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Substances, including but not limited to the: Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), 42 U.S.C. 9601 et seq.; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6901 et seq.; Federal Water Pollution Control Act, 33 U.S.C. 1251 et seq.; Toxic Substances Control Act, 15 U.S.C. 2601 et seq.; Clean Air Act, 42 U.S.C. 7401 et seq.; and the Safe Drinking Water Act, 42 U.S.C. § 300f et seq. "Environmental Laws" shall include any statutory or common law that has developed or develops in the future regarding mold, fungus, microbiological pollutants, mildew, bacteria and/or other organic spore material. "Environmental Laws" shall not include laws relating to industrial hygiene or worker safety, except to the extent that such laws address asbestos and asbestos containing materials (whether friable or non-friable) or lead and lead based paint or other lead containing materials.

i. **Survival**. Tenant's obligations under this Article 25 shall survive the expiration or earlier termination of this Lease until all Claims within the scope of this Article 25 are fully, finally, and absolutely barred by the applicable statutes of limitations.

ARTICLE 26.

LATE CHARGES

If any installment of Rent or any other sum due from Tenant shall not be received by Landlord or Landlord's designee upon the date on which it is due, then Tenant shall pay to Landlord a late charge equal to six percent (6%) of the overdue amount plus any reasonable attorneys' fees incurred by Landlord by reason of Tenant's failure to pay Rent and/or other charges when due hereunder (provided that, for the first (1st) late payment of Rent during any twelve (12)- month period, Tenant shall not be charged a late fee if Tenant pays the overdue amount within five (5) days after written notice by Landlord to Tenant that such amount is past due). The late charge shall be deemed Additional Rent and the right to require it shall be in addition to all of Landlord's other rights and remedies hereunder or at law and shall not be construed as liquidated damages or as limiting Landlord's remedies in any manner.

ARTICLE 27.

LANDLORD'S RIGHT TO CURE DEFAULT; PAYMENTS BY TENANT

a. **Landlord's Cure**. All covenants and agreements to be kept or performed by Tenant under this Lease shall be performed by Tenant at Tenant's sole cost and expense and without any reduction of Rent, except to the extent, if any, otherwise expressly provided herein. If Tenant shall fail to perform any obligation under this Lease, and such failure shall continue in excess of the time allowed under Section 19.1.2, above, unless a specific time period is otherwise stated in this Lease, Landlord may, but shall not be obligated to, make any such payment or perform any such act on Tenant's part without waiving its rights based upon any default of Tenant and without releasing Tenant from any obligations hereunder.

b. **Tenant's Reimbursement**. Except as may be specifically provided to the contrary in this Lease, Tenant shall pay to Landlord, within thirty (30) days of delivery by Landlord to Tenant of statements therefor: (i) sums equal to expenditures reasonably made and obligations incurred by Landlord in connection with the remedying by Landlord of Tenant's defaults pursuant to the provisions of Section 27.1; (ii) sums equal to all losses, costs, liabilities, damages and expenses referred to in Article 10 of this Lease; and (iii) sums equal to all expenditures made and obligations incurred by Landlord in collecting or attempting to collect the Rent or in enforcing or attempting to enforce any rights of Landlord under this Lease or pursuant to law, including, without limitation, all reasonable legal fees and other amounts so expended. Tenant's obligations under this Section 27.2 shall survive the expiration or sooner termination of the Lease Term.

ARTICLE 28.

ENTRY BY LANDLORD

Landlord reserves the right at all reasonable times and upon reasonable notice to Tenant (except in the case of an emergency) to enter the Premises to (i) inspect them; (ii) show the Premises to prospective purchasers, or to current or prospective mortgagees, ground or underlying lessors or insurers or, during the last twelve (12) months of the Lease Term, to prospective tenants; provided, however, that no such third parties described in this subparagraph shall be permitted to access any areas where Tenant is conducting in good faith business of a materially confidential or otherwise materially sensitive nature, unless such parties execute a commercially reasonable confidentiality agreement prior to such entry; (iii) post notices of nonresponsibility; (iv) alter, improve or repair the Premises or the Building, or for structural alterations, repairs or improvements to the Building or the Building's systems and equipment; or (v) access or perform work in any and all areas surrounding the Building, including, without limitation, the East Channel located behind the Building. Notwithstanding anything to the contrary contained in this Article 27, Landlord may enter the Premises at any time to (A) intentionally omitted; (B) take possession due to any breach of this Lease in the manner provided herein; and (C) perform any covenants of Tenant which Tenant fails to perform. Landlord may make any such entries without the abatement of Rent, except as otherwise provided in this Lease, and may take such reasonable steps as required to accomplish the stated purposes. Tenant hereby waives any claims for damages for any injuries (except to the extent caused by the gross negligence or willful misconduct of Landlord) or inconvenience to or interference with Tenant's business, lost profits, any loss of occupancy or quiet enjoyment of the Premises, and any other loss occasioned thereby. For each of the above purposes, Landlord shall at all times have a key with which to unlock all the doors in the Premises, excluding Tenant's vaults, safes and special security areas designated in advance by Tenant. In an emergency, Landlord shall have the right to use any means that Landlord may deem proper to open the doors in and to the Premises. Any entry into the Premises by Landlord in the manner hereinbefore described shall not be deemed to be a forcible or unlawful entry into, or a detainer of, the Premises, or an actual or constructive eviction of Tenant from any portion of the Premises. No provision of this Lease shall be construed as obligating Landlord to perform any repairs, alterations or decorations except as otherwise expressly agreed to be performed by Landlord herein.

ARTICLE 29.

TENANT PARKING

During the Term, Tenant shall have the non-exclusive right to use up to one hundred thirty (130) spaces in the Project parking facilities for parking of automobiles on a first-come, first-served, as available basis; provided, however, Tenant's use of the Project parking facilities shall never exceed Tenant's equitable allocation of available parking, as reasonably determined by Landlord. Tenant shall be responsible for the full amount of any taxes imposed by any governmental authority in connection with the use of the parking facilities by Tenant. Tenant's continued right to use the parking facilities is conditioned upon Tenant abiding by all rules and regulations which are reasonably prescribed from time to time for the orderly operation and use of the parking facilities (including any sticker or other identification system established by Landlord and the prohibition of vehicle repair and maintenance activities in the Project's parking facilities), Tenant's cooperation in seeing that Tenant's employees and visitors also comply with such rules and regulations and Tenant not being in default under this Lease. Tenant's use of the Project parking facilities shall be at Tenant's sole risk and Tenant acknowledges and agrees that Landlord shall have no liability whatsoever for damage to the vehicles of Tenant, its employees and/or visitors, or for other personal injury or property damage or theft relating to or connected with the parking rights granted herein or any of Tenant's, its employees' and/or visitors' use of the parking facilities, except to the extent caused by Landlord's or its employees' or agents' gross negligence or willful misconduct. Tenant's rights hereunder are subject to the terms of any Underlying Documents. Landlord specifically reserves the right to change the size, configuration, design, layout and all other aspects of the Project parking facilities at any time so long as the number of parking spaces allocable to Tenant is not reduced, and Tenant acknowledges and agrees that Landlord may, without incurring any liability to Tenant and without any abatement of Rent under this Lease, from time to time, close-off or restrict access to the Project parking facilities for purposes of permitting or facilitating any such construction, alteration or improvements. Landlord may delegate its responsibilities hereunder to a parking operator in which case such parking operator shall have all the rights of control attributed hereby to the Landlord. The non-exclusive parking rights granted to Tenant pursuant to this Article 28 are provided to Tenant solely for use by Tenant's own personnel and such rights may not be transferred, assigned, subleased or otherwise alienated by Tenant without Landlord's prior approval.

ARTICLE 30.

MISCELLANEOUS PROVISIONS

a. **Terms; Captions**. The words "Landlord" and "Tenant" as used herein shall include the plural as well as the singular. The necessary grammatical changes required to make the provisions hereof apply either to corporations or partnerships or individuals, men or women, as the case may require, shall in all cases be assumed as though in each case fully expressed. The captions of Articles and Sections are for convenience only and shall not be deemed to limit, construe, affect or alter the meaning of such Articles and Sections.

b. **Binding Effect**. Subject to all other provisions of this Lease, each of the covenants, conditions and provisions of this Lease shall extend to and shall, as the case may require, bind or inure to the benefit not only of Landlord and of Tenant, but also of their respective heirs, personal representatives, successors or assigns, provided this clause shall not permit any assignment by Tenant contrary to the provisions of Article 14 of this Lease.

c. **No Air Rights**. No rights to any view or to light or air over any property, whether belonging to Landlord or any other person, are granted to Tenant by this Lease. If at any time any windows of the Premises are temporarily darkened or the light or view therefrom is obstructed by reason of any repairs, improvements, maintenance or cleaning in or about the Project, the same shall be without liability to Landlord and without any reduction or diminution of Tenant's obligations under this Lease.

d. **Modification of Lease**. Should any current or prospective mortgagee or ground lessor for the Building or Project require a modification of this Lease, which modification will not cause an increased cost or expense to Tenant or in any other way materially and adversely change the rights and obligations of Tenant hereunder, then and in such event, Tenant agrees that this Lease may be so modified and agrees to execute whatever documents are reasonably required therefor and to deliver the same to Landlord within ten (10) business days following a request therefor. At the request of Landlord or any mortgagee or ground lessor, Tenant agrees to execute a short form of Lease and deliver the same to Landlord within ten (10) business days following the request therefor.

e. **Transfer of Landlord's Interest**. Tenant acknowledges that Landlord has the right to transfer all or any portion of its interest in the Project or Building and in this Lease, and Tenant agrees that in the event of any such transfer, Landlord shall automatically be released from all liability under this Lease and Tenant agrees to look solely to such transferee for the performance of Landlord's obligations hereunder after the date of transfer and such transferee shall be deemed to have fully assumed and be liable for all obligations of this Lease to be performed by Landlord, including the return of any Security Deposit, and Tenant shall attorn to such transferee.

f. **Prohibition Against Recording**. Except as provided in Section 30.4 of this Lease, neither this Lease, nor any memorandum, affidavit or other writing with respect thereto, shall be recorded by Tenant or by anyone acting through, under or on behalf of Tenant.

g. **Landlord's Title**. Landlord's title is and always shall be paramount to the title of Tenant. Nothing herein contained shall empower Tenant to do any act which can, shall or may encumber the title of Landlord.

h. **Relationship of Parties**. Nothing contained in this Lease shall be deemed or construed by the parties hereto or by any third party to create the relationship of principal and agent, partnership, joint venturer or any association between Landlord and Tenant.

i. **Application of Payments**. Landlord shall have the right to apply payments received from Tenant pursuant to this Lease, regardless of Tenant's designation of such payments, to satisfy any obligations of Tenant hereunder, in such order and amounts as Landlord, in its sole discretion, may elect.

j. **Time of Essence**. Time is of the essence with respect to the performance of every provision of this Lease in which time of performance is a factor.

k. **Partial Invalidity**. If any term, provision or condition contained in this Lease shall, to any extent, be invalid or unenforceable, the remainder of this Lease, or the application of such term, provision or condition to persons or circumstances other than those with respect to which it is invalid or unenforceable, shall not be affected thereby, and each and every other term, provision and condition of this Lease shall be valid and enforceable to the fullest extent possible permitted by law.

l. **No Warranty**. In executing and delivering this Lease, Tenant has not relied on any representations, including, but not limited to, any representation as to the amount of any item comprising Additional Rent or the amount of the Additional Rent in the aggregate or that Landlord is furnishing the same services to other tenants, at all, on the same level or on the same basis, or any warranty or any statement of Landlord which is not set forth herein or in one or more of the exhibits attached hereto.

m. **Exculpation**. The liability of Landlord or the Landlord Parties to Tenant for any default by Landlord under this Lease or arising in connection herewith or with Landlord's operation, management, leasing, repair, renovation, alteration or any other matter relating to the Project or the Premises shall be limited solely and exclusively to an amount which is equal to the lesser of (a) the interest of Landlord in the Building or (b) the equity interest Landlord would have in the Building if the Building were encumbered by third-party debt in an amount equal to eighty percent (80%) of the value of the Building (as such value is determined by Landlord), provided that in no event shall such liability extend to any sales or insurance proceeds received by Landlord or the Landlord Parties in connection with the Project, Building or Premises. Neither Landlord, nor any of the Landlord Parties shall have any personal liability therefor, and Tenant hereby expressly waives and releases such personal liability on behalf of itself and all persons claiming by, through or under Tenant. The limitations of liability contained in this Section 30.13 shall inure to the benefit of Landlord's and the Landlord Parties' present and future partners, beneficiaries, officers, directors, trustees, shareholders, agents and employees, and their respective partners, heirs, successors and assigns. Under no circumstances shall any present or future partner of Landlord (if Landlord is a partnership), or trustee or beneficiary (if Landlord or any partner of Landlord is a trust), have any liability for the performance of Landlord's obligations under this Lease. Notwithstanding any contrary provision herein, neither Landlord nor the Landlord Parties shall be liable under any circumstances for, and Tenant, on behalf of itself and its agents, contractors, subcontractors, employees, invitees and licensees, hereby waives any claim for, any injury or damage to, or interference with, Tenant's business, and any indirect, consequential or punitive damages, including but not limited to, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, in each case, however occurring. Notwithstanding any contrary provision herein, neither Tenant nor the Tenant Parties shall be liable under any circumstances for injury or damage to, or interference with, Landlord's business, including but not limited to, loss of profits, loss of rents or other revenues, loss of business opportunity, loss of goodwill or loss of use, in each case, however occurring, other than such damages (including any loss of profits or business opportunity) incurred by Landlord in connection with Tenant's violation of Article 25 above with respect to Hazardous Materials or any holding over by Tenant in the Premises as set forth in Article 16 above.

n. **Entire Agreement**. It is understood and acknowledged that there are no oral agreements between the parties hereto affecting this Lease and this Lease constitutes the parties' entire agreement with respect to the leasing of the Premises and supersedes and cancels any and all previous negotiations, arrangements, brochures, agreements and understandings, if any, between the parties hereto or displayed by Landlord to Tenant with respect to the subject matter thereof, and none thereof shall be used to interpret or construe this Lease. None of the terms, covenants, conditions or provisions of this Lease can be modified, deleted or added to except in writing signed by the parties hereto.

o. **Right to Lease**. Landlord reserves the absolute right to effect such other tenancies in the Project as Landlord in the exercise of its sole business judgment shall determine to best promote the interests of the Building or Project. Tenant does not rely on the fact, nor does Landlord represent, that any specific tenant or type or number of tenants shall, during the Lease Term, occupy any space in the Building or Project.

p. **Force Majeure**. Any prevention, delay or stoppage due to strikes, lockouts, labor disputes, acts of God, acts of war, terrorist acts, inability to obtain services, labor, or materials or reasonable substitutes therefor, governmental actions (including, without limitation, federal, state or local “shelter-in-place orders”), civil commotions, fire or other casualty, epidemic, pandemic (including, without limitation, COVID-19) and other causes beyond the reasonable control of the party obligated to perform, except with respect to the obligations imposed with regard to Rent and other charges to be paid by Tenant pursuant to this Lease (collectively, a "**Force Majeure**"), notwithstanding anything to the contrary contained in this Lease, shall excuse the performance of such party for a period equal to any such prevention, delay or stoppage and, therefore, if this Lease specifies a time period for performance of an obligation of either party, that time period shall be extended by the period of any delay in such party's performance caused by a Force Majeure.

q. **Waiver of Redemption by Tenant**. Tenant hereby waives, for Tenant and for all those claiming under Tenant, any and all rights now or hereafter existing to redeem by order or judgment of any court or by any legal process or writ, Tenant's right of occupancy of the Premises after any termination of this Lease.

r. **Notices**. All notices, demands, statements, designations, approvals or other communications (collectively, "**Notices**") given or required to be given by either party to the other hereunder or by law shall be in writing, shall be (A) sent by United States certified or registered mail, postage prepaid, return receipt requested ("**Mail**"), (B) transmitted by telecopy (only if a telecopy or facsimile number is set forth for such party in the Summary), if such telecopy is promptly followed by a Notice sent by Mail, (C) delivered by a nationally recognized overnight courier, or (D) delivered personally. Any Notice shall be sent, transmitted, or delivered, as the case may be, to Tenant at the appropriate address set forth in Section 10 of the Summary, or to such other place as Tenant may from time to time designate in a Notice to Landlord, or to Landlord at the addresses set forth in Section 11 of the Summary, or to such other places as Landlord may from time to time designate in a Notice to Tenant. Any Notice will be deemed given on the date of receipted delivery, of refusal to accept delivery, or when delivery is first attempted but cannot be made due to a change of address for which no Notice was given.

s. **Joint and Several**. If there is more than one Tenant, the obligations imposed upon Tenant under this Lease shall be joint and several.

t. **Authority**. If Tenant is a corporation, trust or partnership, each individual executing this Lease on behalf of Tenant hereby represents and warrants that Tenant is a duly formed and existing entity qualified to do business in California and that Tenant has full right and authority to execute and deliver this Lease and that each person signing on behalf of Tenant is authorized to do so. In such event, Tenant shall, within ten (10) days after execution of this Lease, deliver to Landlord satisfactory evidence of such authority and, if a corporation, upon demand by Landlord, also deliver to Landlord satisfactory evidence of (i) good standing in Tenant's state of incorporation and (ii) qualification to do business in California.

u. **Attorneys' Fees**. Notwithstanding anything to the contrary contained herein, should any claim, action or proceeding (including, for the avoidance of doubt, any appeals of a claim, action or proceeding) be commenced between the parties hereto concerning any provision of this Lease, or the rights or duties of any person or entity in relation thereto, each party shall bear its own fees and costs (including, without limitation, attorneys' fees, accounting fees, expert witness fees, consulting fees, court costs, and all other costs) to the extent incurred in prosecuting or defending such claim, action, or proceeding against the other party. Nothing in this Section shall be construed to limit a party's obligation, as may be set forth elsewhere in this Lease, to indemnify another from any fees or costs (including, without limitation, attorneys' fees, accounting fees, expert witness fees, consulting fees, court costs, and all other costs), except to the extent incurred by the indemnified party in an action brought against the indemnifying party to enforce such indemnification provisions under this Lease.

v. **Governing Law; WAIVER OF TRIAL BY JURY**. This Lease shall be construed and enforced in accordance with the laws of the State of California. IN ANY ACTION OR PROCEEDING ARISING HEREFROM, LANDLORD AND TENANT HEREBY CONSENT TO (I) THE JURISDICTION OF ANY COMPETENT COURT WITHIN THE STATE OF CALIFORNIA, (II) SERVICE OF PROCESS BY ANY MEANS AUTHORIZED BY CALIFORNIA LAW, AND (III) IN THE INTEREST OF SAVING TIME AND EXPENSE, TRIAL WITHOUT A JURY IN ANY ACTION, PROCEEDING OR COUNTERCLAIM BROUGHT BY EITHER OF THE PARTIES HERETO AGAINST THE OTHER OR THEIR SUCCESSORS IN RESPECT OF ANY MATTER ARISING OUT OF OR IN CONNECTION WITH THIS LEASE, THE RELATIONSHIP OF LANDLORD AND TENANT, TENANT'S USE OR OCCUPANCY OF THE PREMISES, AND/OR ANY CLAIM FOR INJURY OR DAMAGE, OR ANY EMERGENCY OR STATUTORY REMEDY. IN THE EVENT LANDLORD COMMENCES ANY SUMMARY PROCEEDINGS OR ACTION FOR NONPAYMENT OF BASE RENT OR ADDITIONAL RENT, TENANT SHALL NOT INTERPOSE ANY COUNTERCLAIM OF ANY NATURE OR DESCRIPTION (UNLESS SUCH COUNTERCLAIM SHALL BE MANDATORY) IN ANY SUCH PROCEEDING OR ACTION, BUT SHALL BE RELEGATED TO AN INDEPENDENT ACTION AT LAW.

w. **Submission of Lease**. Submission of this instrument for examination or signature by Tenant does not constitute a reservation of, option for or option to lease, and it is not effective as a lease or otherwise until execution and delivery by both Landlord and Tenant.

x. **Brokers**. Landlord and Tenant hereby warrant to each other that they have had no dealings with any real estate broker or agent in connection with the negotiation of this Lease, excepting only the real estate brokers or agents specified in Section 13 of the Summary (if any) (the "**Brokers**"), and that they know of no other real estate broker or agent who is entitled to a commission in connection with this Lease. Each party agrees to indemnify and defend the other party against and hold the other party harmless from any and all claims, demands, losses, liabilities, lawsuits, judgments, costs and expenses (including without limitation reasonable attorneys' fees) with respect to any leasing commission or equivalent compensation alleged to be owing on account of any dealings with any real estate broker or agent, other than the Brokers, occurring by, through, or under the indemnifying party.

y. **Independent Covenants**. This Lease shall be construed as though the covenants herein between Landlord and Tenant are independent and not dependent and Tenant hereby expressly waives the benefit of any statute to the contrary and agrees that if Landlord fails to perform its obligations set forth herein, Tenant shall not be entitled to make any repairs or perform any acts hereunder at Landlord's expense or to any setoff of the Rent or other amounts owing hereunder against Landlord.

z. **Project or Building Name and Signage**. Landlord shall have the right at any time to change the name of the Project or Building and to install, affix and maintain any and all signs on the exterior and on the interior of the Project or Building as Landlord may, in Landlord's sole discretion, desire. Tenant shall not use the name of the Project or Building or use pictures or illustrations of the Project or Building in advertising or other publicity or for any purpose other than as the address of the business to be conducted by Tenant in the Premises, without the prior written consent of Landlord.

aa. **Counterparts**. This Lease may be executed in counterparts with the same effect as if both parties hereto had executed the same document. Both counterparts shall be construed together and shall constitute a single lease.

ab. **New Location; Confidentiality**. Tenant acknowledges that the economic terms set forth in this Lease are below fair market rental for the Premises and that Landlord is only willing to enter into this Lease on such economic terms subject to Tenant agreeing (i) to actively search for a new location during the Lease Term so as not to hold over after the expiration of the Lease Term or earlier termination thereof, and (ii) to keep the content of this Lease and any related documents strictly confidential, except that Tenant shall be allowed to disclose the content of this Lease and any related documents solely to its financial and legal consultants, and as may be required by applicable Law or a valid court order. Tenant acknowledges that the unauthorized disclosure of the content of this Lease and any related documents, and in particular the economic terms of this Lease, would cause Landlord substantial harm and deprive Landlord the benefit of its bargain in entering into this Lease. Accordingly, should Tenant violate the terms of this Section 30.28, Landlord shall be entitled to retroactively (from the date of such violation) and prospectively through the end of the Lease Term, collect from Tenant monthly Base Rent at the rate of $5.00 per rentable square feet of the Premises per month (the "**Fair Market Rent**"), which Tenant acknowledges represents the current fair market rental of the Premises on a full-service gross basis. In the event Landlord informs Tenant that Tenant has violated the terms of this Section 30.28, Tenant acknowledges and agrees that Tenant shall be obligated to pay the Fair Market Rent until such time as there is an adjudication that Tenant did not violate the terms of this Section 30.28. Any such relief sought by Tenant must be initiated by Tenant, if at all, within ninety (90) days after Tenant's receipt of notice from Landlord that Tenant has violated this Section 30.28 and is responsible for the payment of Fair Market Rent; otherwise, Tenant shall be deemed to have forever waived its right to contest a violation of this Section 30.28.

ac. **Building Renovations**. It is specifically understood and agreed that Landlord has no obligation and has made no promises to alter, remodel, improve, renovate, repair or decorate the Premises, Building, or any part thereof and that no representations respecting the condition of the Premises or the Building have been made by Landlord to Tenant except as specifically set forth herein. However, Tenant hereby acknowledges that Landlord is currently renovating or may during the Lease Term renovate, improve, alter, or modify (collectively, the "**Renovations**") the Project. Tenant hereby agrees that such Renovations shall in no way constitute a constructive eviction of Tenant nor entitle Tenant to any abatement of Rent. Landlord shall have no responsibility and shall not be liable to Tenant for any injury to or interference with Tenant's business arising from the Renovations, nor shall

Tenant be entitled to any compensation or damages from Landlord for loss of the use of the whole or any part of the Premises or of Tenant's personal property or improvements resulting from the Renovations, or for any inconvenience or annoyance occasioned by such Renovations. Notwithstanding the foregoing to the contrary, Landlord shall use commercially reasonable to minimize interference with Tenant's use and enjoyment of the Premises.

ad. **No Violation**. Tenant hereby warrants and represents that neither its execution of nor performance under this Lease shall cause Tenant to be in violation of any agreement, instrument, contract, law, rule or regulation by which Tenant is bound, and Tenant shall protect, defend, indemnify and hold Landlord harmless against any claims, demands, losses, damages, liabilities, costs and expenses, including, without limitation, reasonable attorneys' fees and costs, arising from Tenant's breach of this warranty and representation.

ae. **Communications and Computer Lines**. Tenant may install, maintain, replace, remove or use any communications or computer wires and cables serving the Premises (collectively, the "**Lines**"), provided that (i) Tenant shall obtain Landlord's prior written consent, use an experienced and qualified contractor approved in writing by Landlord, and comply with all of the other provisions of Articles 7 and 8 of this Lease, (ii) an acceptable number of spare Lines and space for additional Lines shall be maintained for existing and future occupants of the Project, as determined in Landlord's reasonable opinion, (iii) the Lines therefor (including riser cables) shall be appropriately insulated to prevent excessive electromagnetic fields or radiation, shall be surrounded by a protective conduit reasonably acceptable to Landlord, and shall be identified in accordance with the "Identification Requirements," as that term is set forth hereinbelow, (iv) any new or existing Lines servicing the Premises shall comply with all applicable governmental laws and regulations, (v) as a condition to permitting the installation of new Lines, Landlord may require that Tenant remove existing Lines located in or serving the Premises and repair any damage in connection with such removal, and (vi) Tenant shall pay all costs in connection therewith. All Lines shall be clearly marked with adhesive plastic labels (or plastic tags attached to such Lines with wire) to show Tenant's name, suite number, telephone number and the name of the person to contact in the case of an emergency (A) every four feet (4') outside the Premises (specifically including, but not limited to, the electrical room risers and other Common Areas), and (B) at the Lines' termination point(s) (collectively, the "**Identification Requirements**"). Unless otherwise instructed by Landlord (by notice to Tenant), Tenant shall, at Tenant's sole cost and expense, prior to the expiration or earlier termination of this Lease, remove any Lines located in or serving the Premises (and repair any resulting damage).

af. **Transportation Management**. Tenant shall fully comply with all present or future programs intended to manage parking, transportation or traffic in and around the Project and/or the Building, and in connection therewith, Tenant shall take responsible action for the transportation planning and management of all employees located at the Premises by working directly with Landlord, any governmental transportation management organization or any other transportation-related committees or entities. Such programs may include, without limitation: (i) restrictions on the number of peak-hour vehicle trips generated by Tenant; (ii) increased vehicle occupancy; (iii) implementation of an in-house ridesharing program and an employee transportation coordinator; (iv) working with employees and any Project, Building or area-wide ridesharing program manager; (v) instituting employer-sponsored incentives (financial or in-kind) to encourage employees to rideshare; and (vi) utilizing flexible work shifts for employees.

ag. **Development of the Project**.

i..**Subdivision**. Landlord reserves the right to further subdivide all or a portion of the Project. Tenant agrees to execute and deliver, upon demand by Landlord and in the form requested by Landlord, any additional documents needed to conform this Lease to the circumstances resulting from such subdivision.

ii..**The Other Improvements**. If portions of the Project or property adjacent to the Project (collectively, the "**Other Improvements**") are owned by an entity other than Landlord, Landlord, at its option, may enter into an agreement with the owner or owners of any or all of the Other Improvements to provide (i) for reciprocal rights of access and/or use of the Project and the Other Improvements, (ii) for the common management, operation, maintenance, improvement and/or repair of all or any portion of the Project and the Other Improvements, provided that Tenant's rights under this Lease are not materially impaired, (iii) for the allocation of a portion of the Direct Expenses to the Other Improvements and the operating expenses and taxes for the Other Improvements to the Project, and (iv) for the use or improvement of the Other Improvements and/or the Project in connection with the improvement, construction, and/or excavation of the Other Improvements and/or the Project. Nothing contained herein shall be deemed or construed to limit or otherwise affect Landlord's right to convey all or any portion of the Project or any other of Landlord's rights described in this Lease.

iii..**Construction of Project and Other Improvements**. Tenant acknowledges that portions of the Project and/or the Other Improvements may be subject to demolition or construction following Tenant's occupancy of the Premises, and that such construction may result in levels of noise, dust, obstruction of access, etc. which are in excess of that present in a fully constructed project. Tenant hereby waives any and all rent offsets or claims of constructive eviction which may arise in connection with such demolition or construction.

ah. **USA Patriot Act**.

29.34.1 **Certification**. Tenant hereby certifies to Landlord that:

(a) Tenant (which, for purposes of the certification contained in this Section 30.34.1, includes its directors) is not in violation of any laws, executive orders or regulations relating to terrorism or money laundering, including, without limitation, Executive Order No. 13224 - Blocking Property and Prohibiting Transactions With Persons Who Commit, Threaten to Commit, or Support Terrorism, effective September 24, 2001 (the "**Executive Order**") and the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act (USA PATRIOT ACT) of 2001 (Public Law 107-56), enacted October 26, 2001, as amended (the "**USA Patriot Act**");

(b) Tenant has not been designated as a "Specially Designated National and Blocked Person" or other banned or blocked person, entity, nation or transaction pursuant to the Executive Order, the USA Patriot Act or any other law, order, rule, or regulation, and Tenant does not appear on any of the following lists: (i) the two (2) lists maintained by the United States Department of Commerce (Denied Persons and Entities; the Denied Persons list can be found at http://www.bis.doc.gov/DPL/thedeniallist.asp; the Entity List can be accessed from http://www.bis.doc.gov/Entities/Default.htm); (ii) the list maintained by the United States Department of Treasury (Specially Designated Nationals and Blocked Persons, which can be found at http://www.ustreas.gov/ofac/t11sdn.pdf); (iii) the two (2) lists maintained by the United States Department of State (Terrorist Organizations and Debarred Parties; the State Department List of Terrorists can be found at http://www.state.gov/s/ct/rls/fs/2001/6531.htm; the List of Debarred Parties can be found at http://www.pmdtc.org/debar059.htm); and (iv) any other list of terrorists, terrorist, organizations or narcotics traffickers maintained pursuant to any of the rules and regulations of the Office of Foreign Assets Control of the United States Department of the Treasury, or by any other government or agency thereof (any such designated or listed person, entity, nation or transaction being referred to herein as a "**Designated Person or Entity**");

(c) Tenant is currently in compliance with and will at all times during the Lease Term (including any extension thereof) remain in compliance with the Executive Order, the USA Patriot Act and regulations of the Office of Foreign Assets Control of the United States Department of the Treasury, and any statute, executive order and other governmental action relating thereto; and

(d) Tenant is not engaged in this transaction, directly or indirectly on behalf of, or instigating or facilitating this transaction, directly or indirectly on behalf of, any Designated Person or Entity.

29.34.2 **Indemnification**. Tenant hereby agrees to indemnify, defend, protect and hold harmless the Landlord Parties harmless from and against any and all claims, damages, losses, risks, liabilities, and expenses (including attorneys' fees and costs) arising from or related to any breach of the certification contained in Section 30.34.1, above.

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EXHIBIT A

RULES AND REGULATIONS

Tenant shall faithfully observe and comply with the following Rules and Regulations. Landlord shall not be responsible to Tenant for the nonperformance of any of said Rules and Regulations by or otherwise with respect to the acts or omissions of any other tenants or occupants of the Project. In the event of any conflict between the Rules and Regulations and the other provisions of this Lease, the latter shall control.

1. Tenant shall not alter any lock or install any new or additional locks or bolts on any doors or windows of the Premises without obtaining Landlord's prior written consent. Tenant shall bear the cost of any lock changes or repairs required by Tenant. Two keys will be furnished by Landlord for the Premises, and any additional keys required by Tenant must be obtained from Landlord at a reasonable cost to be established by Landlord. Upon the termination of this Lease, Tenant shall restore to Landlord all keys of stores, offices, and toilet rooms, either furnished to, or otherwise procured by, Tenant and in the event of the loss of keys so furnished, Tenant shall pay to Landlord the cost of replacing same or of changing the lock or locks opened by such lost key if Landlord shall deem it necessary to make such changes.

2. All doors opening to public corridors shall be kept closed at all times except for normal ingress and egress to the Premises.

3. Landlord reserves the right to close and keep locked all entrance and exit doors of the Building during such hours as are customary for comparable buildings in the vicinity of the Building. Tenant, its employees and agents must be sure that the doors to the Building are securely closed and locked when leaving the Premises if it is after the normal hours of business for the Building. Any tenant, its employees, agents or any other persons entering or leaving the Building at any time when it is so locked, or any time when it is considered to be after normal business hours for the Building, may be required to sign the Building register. Access to the Building may be refused unless the person seeking access has proper identification or has a previously arranged pass for access to the Building. Landlord will furnish passes to persons for whom Tenant requests same in writing. Tenant shall be responsible for all persons for whom Tenant requests passes and shall be liable to Landlord for all acts of such persons. The Landlord and his agents shall in no case be liable for damages for any error with regard to the admission to or exclusion from the Building of any person. In case of invasion, mob, riot, public excitement, or other commotion, Landlord reserves the right to prevent access to the Building or the Project during the continuance thereof by any means it deems appropriate for the safety and protection of life and property.

4. Intentionally omitted.

5. Intentionally omitted.

6. The requirements of Tenant will be attended to only upon application at the management office for the Project or at such office location designated by Landlord. Employees of Landlord shall not perform any work or do anything outside their regular duties unless under special instructions from Landlord.

7. No sign, advertisement, notice or handbill shall be exhibited, distributed, painted or affixed by Tenant on any part of the Premises or the Building without the prior written consent of the Landlord. Tenant shall not disturb, solicit, peddle, or canvass any occupant of the Project and shall cooperate with Landlord and its agents of Landlord to prevent same.

8. The toilet rooms, urinals, wash bowls and other apparatus shall not be used for any purpose other than that for which they were constructed, and no foreign substance of any kind whatsoever shall be thrown therein. The expense of any breakage, stoppage or damage resulting from the violation of this rule shall be borne by the tenant who, or whose servants, employees, agents, visitors or licensees shall have caused same.

9. Tenant shall not overload the floor of the Premises, nor mark, drive nails or screws, or drill into the partitions, woodwork or drywall or in any way deface the Premises or any part thereof without Landlord's prior written consent.

10. Except for vending machines intended for the sole use of Tenant's employees and invitees, no vending machine or machines other than fractional horsepower office machines shall be installed, maintained or operated upon the Premises without the written consent of Landlord.

11. Subject to the provisions of Article 25 of the Lease, Tenant shall not use or keep in or on the Premises, the Building, or the Project any kerosene, gasoline or other inflammable or combustible fluid, chemical, substance or material.

12. Tenant shall not without the prior written consent of Landlord use any method of heating or air conditioning other than that supplied by Landlord.

13. Tenant shall not use, keep or permit to be used or kept, any foul or noxious gas or substance in or on the Premises, or permit or allow the Premises to be occupied or used in a manner offensive or objectionable to Landlord or other occupants of the Project by reason of noise, odors, or vibrations, or interfere with other tenants or those having business therein, whether by the use of any musical instrument, radio, phonograph, or in any other way. Tenant shall not throw anything out of doors, windows or skylights or down passageways.

14. Tenant shall not bring into or keep within the Project, the Building or the Premises any animals (except for service animals), birds or aquariums.

15. No cooking shall be done or permitted on the Premises, nor shall the Premises be used for the storage of merchandise, for lodging or for any improper, objectionable or immoral purposes. Notwithstanding the foregoing, Underwriters' laboratory-approved equipment and microwave ovens may be used in the Premises for heating food and brewing coffee, tea, hot chocolate and similar beverages for employees and visitors, provided that such use is in accordance with all applicable federal, state, county and city laws, codes, ordinances, rules and regulations.

16. . Tenant shall not occupy or permit any portion of the Premises to be occupied as an office for a messenger-type operation or dispatch office, public stenographer or typist, or for the manufacture or sale of liquor, narcotics, or tobacco in any form, or as a medical office, or as a barber or manicure shop, or as an employment bureau without the express prior written consent of Landlord. Tenant shall not engage or pay any employees on the Premises except those actually working for such tenant on the Premises nor advertise for laborers giving an address at the Premises.

17. Landlord reserves the right to exclude or expel from the Project any person who, in the reasonable judgment of Landlord, is intoxicated or under the influence of liquor or drugs, or who shall in any manner do any act in violation of any of these Rules and Regulations.

18. Tenant, its employees and agents shall not loiter in or on the entrances, corridors, sidewalks, lobbies, courts, halls, stairways, elevators, vestibules or any Common Areas for the purpose of smoking tobacco products or for any other purpose, nor in any way obstruct such areas, and shall use them only as a means of ingress and egress for the Premises.

19. Tenant shall not waste electricity, water or air conditioning and agrees to cooperate reasonably fully with Landlord to ensure the most effective operation of the Building's heating and air conditioning system, and shall refrain from attempting to adjust any controls.

20. Tenant shall store all its trash and garbage within the interior of the Premises. No material shall be placed in the trash boxes or receptacles if such material is of such nature that it may not be disposed of in the

ordinary and customary manner of removing and disposing of trash and garbage in the vicinity of the Building without violation of any law or ordinance governing such disposal.

21. Tenant shall comply with all safety, fire protection and evacuation procedures and regulations reasonably established by Landlord or established by any governmental agency.

22. Any persons employed by Tenant to do janitorial work shall be subject to the prior written approval of Landlord, and while in the Building and outside of the Premises, shall be subject to and under the control and direction of the Building manager (but not as an agent or servant of such manager or of Landlord), and Tenant shall be responsible for all acts of such persons.

23.

24. The sashes, sash doors, skylights, windows, and doors that reflect or admit light and air into the halls, passageways or other public places in the Building shall not be covered or obstructed by Tenant, nor shall any bottles, parcels or other articles be placed on the windowsills.

25. Tenant must comply with requests by the Landlord concerning the informing of their employees of items of importance to the Landlord.

26. Tenant must comply with the State of California "NoSmoking" law set forth in California Labor Code Section 6404.5, and any local "NoSmoking" ordinance which may be in effect from time to time and which is not superseded by such State law.

27. Tenant hereby acknowledges that Landlord shall have no obligation to provide guard service or other security measures for the benefit of the Premises, the Building or the Project. Tenant hereby assumes all responsibility for the protection of Tenant and its agents, employees, contractors, invitees and guests, and the property thereof, from acts of third parties, including keeping doors locked and other means of entry to the Premises closed, whether or not Landlord, at its option, elects to provide security protection for the Project or any portion thereof. Tenant further assumes the risk that any safety and security devices, services and programs which Landlord elects, in its sole discretion, to provide may not be effective, or may malfunction or be circumvented by an unauthorized third party, and Tenant shall, in addition to its other insurance obligations under this Lease, obtain its own insurance coverage to the extent Tenant desires protection against losses related to such occurrences. Tenant shall cooperate in any reasonable safety or security program developed by Landlord or required by law.

28. All office equipment of any electrical or mechanical nature shall be placed by Tenant in the Premises in settings approved by Landlord, to absorb or prevent any vibration, noise and annoyance.

29. Tenant shall not use in any space or in the public halls of the Building, any hand trucks except those equipped with rubber tires and rubber side guards.

30. No auction, liquidation, fire sale, going-out-of-business or bankruptcy sale shall be conducted in the Premises without the prior written consent of Landlord.

31. No tenant shall use or permit the use of any portion of the Premises for living quarters, sleeping apartments or lodging rooms.

Except as otherwise provided in the Lease, Landlord reserves the right upon not less than thirty (30) days prior written notice to Tenant to change or rescind any one or more of these Rules and Regulations, or to make such other and further reasonable Rules and Regulations as in Landlord's reasonable judgment may from time to time be necessary for the management, safety, care and cleanliness of the Premises and the Project, and for the preservation of good order therein. Tenant shall be deemed to have read these Rules and Regulations and to have agreed to abide by them as a condition of its occupancy of the Premises.

EXHIBIT B

RESTORATION AGREEMENT

[OMITTED]

EXHIBIT C

FORM OF LETTER OF CREDIT

(Letterhead of a money center bank acceptable to the Landlord)

FAX NO. [(___) ___-____]
SWIFT: [Insert No., if any]

[Insert Bank Name And Address]

DATE OF ISSUE: DECEMBER ___, 2020

BENEFICIARY:
GOOGLE LLC
1600 AMPHITHEATRE PARKWAY
MOUNTAIN VIEW, CALIFORNIA 94043
ATTENTION: LEASE ADMINISTRATION

APPLICANT:
BLOOM ENERGY CORPORATION

LETTER OF CREDIT NO. ____

AMOUNT AVAILABLE:
USD [ ]

EXPIRATION DATE: DECEMBER 31, 2021
____ AT OUR COUNTERS

LADIES AND GENTLEMEN:

WE HEREBY ESTABLISH OUR IRREVOCABLE STANDBY LETTER OF CREDIT NO. ___________ IN YOUR FAVOR FOR THE ACCOUNT OF BLOOM ENERGY CORPORATION, A DELAWARE CORPORATION, UP TO THE AGGREGATE AMOUNT OF USD [ ] EFFECTIVE IMMEDIATELY AND EXPIRING ON ___(Expiration Date)___ AVAILABLE BY PAYMENT UPON PRESENTATION OF YOUR DRAFT AT SIGHT DRAWN ON [Insert Bank Name] WHEN ACCOMPANIED BY THE FOLLOWING DOCUMENT(S):

1. **THE ORIGINAL OF THIS IRREVOCABLE STANDBY LETTER OF CREDIT AND AMENDMENT(S), IF ANY.**

2. **BENEFICIARY'S SIGNED STATEMENT PURPORTEDLY SIGNED BY AN AUTHORIZED REPRESENTATIVE OF GOOGLE LLC, A DELAWARE LIMITED LIABILITY COMPANY ("LANDLORD") STATING THE FOLLOWING:**

"THE UNDERSIGNED HEREBY CERTIFIES THAT THE LANDLORD, EITHER (A) UNDER THE LEASE (DEFINED BELOW), OR (B) AS A RESULT OF THE TERMINATION OF SUCH LEASE, HAS THE RIGHT TO DRAW DOWN THE AMOUNT OF USD _____ IN ACCORDANCE WITH THE TERMS OF THAT CERTAIN LEASE DATED [Insert Lease Date], AS THE SAME MAY HAVE BEEN AMENDED (COLLECTIVELY, THE "LEASE"), OR SUCH AMOUNT CONSTITUTES DAMAGES OWING BY THE TENANT TO BENEFICIARY RESULTING FROM THE BREACH OF SUCH LEASE BY THE TENANT THEREUNDER, OR THE TERMINATION OF SUCH LEASE, AND SUCH AMOUNT REMAINS UNPAID AT THE TIME OF THIS DRAWING."

OR

"THE UNDERSIGNED HEREBY CERTIFIES THAT WE HAVE RECEIVED A WRITTEN NOTICE OF [Insert Bank Name]'S ELECTION NOT TO EXTEND ITS STANDBY LETTER OF CREDIT NO. __________ AND HAVE NOT RECEIVED A REPLACEMENT LETTER OF CREDIT WITHIN AT LEAST SIXTY (60) DAYS PRIOR TO THE PRESENT EXPIRATION DATE."

OR

"THE UNDERSIGNED HEREBY CERTIFIES THAT BENEFICIARY IS ENTITLED TO DRAW DOWN THE FULL AMOUNT OF LETTER OF CREDIT NO. ___________ AS THE RESULT OF THE FILING OF A VOLUNTARY PETITION UNDER THE U.S. BANKRUPTCY CODE OR A STATE BANKRUPTCY CODE BY THE TENANT UNDER THAT CERTAIN LEASE DATED [Insert Lease Date], AS THE SAME MAY HAVE BEEN AMENDED (COLLECTIVELY, THE "LEASE"), WHICH FILING HAS NOT BEEN DISMISSED AT THE TIME OF THIS DRAWING."

OR

"THE UNDERSIGNED HEREBY CERTIFIES THAT BENEFICIARY IS ENTITLED TO DRAW DOWN THE FULL AMOUNT OF LETTER OF CREDIT NO. ___________ AS THE RESULT OF AN INVOLUNTARY PETITION HAVING BEEN FILED UNDER THE U.S. BANKRUPTCY CODE OR A STATE BANKRUPTCY CODE AGAINST THE TENANT UNDER THAT CERTAIN LEASE DATED [Insert Lease Date], AS THE SAME MAY HAVE BEEN AMENDED (COLLECTIVELY, THE "LEASE"), WHICH FILING HAS NOT BEEN DISMISSED AT THE TIME OF THIS DRAWING."

OR

"THE UNDERSIGNED HEREBY CERTIFIES THAT BENEFICIARY IS ENTITLED TO DRAW DOWN THE FULL AMOUNT OF LETTER OF CREDIT NO. ________________ AS THE RESULT OF THE REJECTION, OR DEEMED REJECTION, OF THAT CERTAIN LEASE DATED [Insert Lease Date], AS THE SAME MAY HAVE BEEN AMENDED, UNDER SECTION 365 OF THE U.S. BANKRUPTCY CODE."

SPECIAL CONDITIONS:

PARTIAL DRAWINGS AND MULTIPLE PRESENTATIONS MAY BE MADE UNDER THIS STANDBY LETTER OF CREDIT, PROVIDED, HOWEVER, THAT EACH SUCH DEMAND THAT IS PAID BY US SHALL REDUCE THE AMOUNT AVAILABLE UNDER THIS STANDBY LETTER OF CREDIT.

ALL INFORMATION REQUIRED WHETHER INDICATED BY BLANKS, BRACKETS OR OTHERWISE, MUST BE COMPLETED AT THE TIME OF DRAWING. [Please Provide The Required Forms For Review, And Attach As Schedules To The Letter Of Credit.]

ALL SIGNATURES MUST BE MANUALLY EXECUTED IN ORIGINALS.

ALL BANKING CHARGES ARE FOR THE APPLICANT'S ACCOUNT.

IT IS A CONDITION OF THIS STANDBY LETTER OF CREDIT THAT IT SHALL BE DEEMED AUTOMATICALLY EXTENDED WITHOUT AMENDMENT FOR A PERIOD OF ONE YEAR FROM THE PRESENT OR ANY FUTURE EXPIRATION DATE, UNLESS AT LEAST SIXTY (60) DAYS PRIOR TO THE EXPIRATION DATE WE SEND YOU NOTICE BY NATIONALLY RECOGNIZED OVERNIGHT COURIER SERVICE THAT WE ELECT NOT TO EXTEND THIS LETTER OF CREDIT FOR ANY SUCH ADDITIONAL PERIOD. SAID NOTICE WILL BE SENT TO THE ADDRESS INDICATED ABOVE, UNLESS A CHANGE OF ADDRESS IS OTHERWISE NOTIFIED BY YOU TO US IN WRITING BY RECEIPTED MAIL OR COURIER. ANY NOTICE TO US WILL BE DEEMED EFFECTIVE ONLY UPON ACTUAL RECEIPT BY US AT OUR DESIGNATED OFFICE. IN NO EVENT, AND WITHOUT FURTHER NOTICE FROM OURSELVES, SHALL THE EXPIRATION DATE BE EXTENDED BEYOND A FINAL EXPIRATION DATE OF APRIL 30, 2024.

THIS LETTER OF CREDIT MAY BE TRANSFERRED SUCCESSIVELY IN WHOLE OR IN PART ONLY UP TO THE THEN AVAILABLE AMOUNT IN FAVOR OF A NOMINATED TRANSFEREE ("TRANSFEREE"), ASSUMING SUCH TRANSFER TO SUCH TRANSFEREE IS IN COMPLIANCE WITH ALL APPLICABLE U.S. LAWS AND REGULATIONS. AT THE TIME OF TRANSFER, THE ORIGINAL LETTER OF CREDIT AND ORIGINAL AMENDMENT(S) IF ANY, MUST BE SURRENDERED TO US TOGETHER WITH OUR TRANSFER FORM (AVAILABLE UPON REQUEST) AND PAYMENT OF OUR CUSTOMARY TRANSFER FEES, WHICH FEES SHALL BE PAYABLE BY APPLICANT (PROVIDED THAT BENEFICIARY MAY, BUT SHALL NOT BE OBLIGATED TO, PAY SUCH FEES TO US ON BEHALF OF APPLICANT, AND SEEK REIMBURSEMENT THEREOF FROM APPLICANT). IN CASE OF ANY TRANSFER UNDER THIS LETTER OF CREDIT, THE DRAFT AND ANY REQUIRED STATEMENT MUST BE EXECUTED BY THE TRANSFEREE AND WHERE THE BENEFICIARY'S NAME APPEARS WITHIN THIS STANDBY LETTER OF CREDIT, THE TRANSFEREE'S NAME IS AUTOMATICALLY SUBSTITUTED THEREFOR.

ALL DRAFTS REQUIRED UNDER THIS STANDBY LETTER OF CREDIT MUST BE MARKED: ''DRAWN UNDER [Insert Bank Name] STANDBY LETTER OF CREDIT NO. ___________."

We hereby agree with you that if drafts are presented to [Insert Bank Name] under this Letter of Credit at or prior to 11:00 AM on a business day, and provided that such drafts presented conform to the terms and conditions of this Letter of Credit, payment shall be initiated by us in immediately available funds by our close of business on the succeeding business day. If drafts are presented to [Insert Bank Name] under this Letter of Credit after 11:00 AM on a business day, and provided that such drafts conform with the terms and conditions of this Letter of Credit, payment shall be initiated by us in immediately available funds by our close of business on the second succeeding business day. As used in this Letter of Credit, "business day" shall mean any day other than a Saturday, Sunday or a day on which banking institutions in the state of California are authorized or required by law to close. If the expiration date for this Letter of Credit shall ever fall on a day which is not a business day then such expiration date shall automatically be extended to the date which is the next business day.

Presentation of a drawing under this Letter of Credit may be made on or prior to the then current expiration date hereof by hand delivery, courier service, overnight mail, or facsimile. Presentation by facsimile transmission shall be by transmission of the above required sight draft drawn on us together with this Letter of Credit to our facsimile number, [Insert Fax Number – (___) ___-____], attention: [Insert Appropriate Recipient], with telephonic confirmation of our receipt of such facsimile transmission at our telephone number [Insert Telephone Number – (___) ___-____] or to such other facsimile or telephone numbers, as to which you have received written notice from us as being the applicable such number. We agree to notify you in writing, by NATIONALLY RECOGNIZED OVERNIGHT courier service, of any change in such direction.

IF YOU PRESENT A FAX DRAWING UNDER THIS LETTER OF CREDIT YOU DO NOT NEED TO PRESENT THE ORIGINAL OF ANY DRAWING DOCUMENTS, AND IF WE RECEIVE ANY SUCH ORIGINAL DRAWING DOCUMENTS THEY WILL NOT BE EXAMINED BY US. IN THE EVENT OF A FULL OR FINAL DRAWING THE ORIGINAL STANDBY LETTER OF CREDIT MUST BE RETURNED TO US BY OVERNIGHT COURIER. WE HEREBY ENGAGE WITH YOU THAT ALL DOCUMENT(S) DRAWN UNDER AND IN COMPLIANCE WITH THE TERMS OF THIS STANDBY LETTER OF CREDIT WILL BE DULY HONORED IF DRAWN AND PRESENTED FOR PAYMENT AT OUR OFFICE LOCATED AT [Insert Bank Name], [Insert Bank Address], ATTN: [Insert Appropriate Recipient], ON OR BEFORE THE EXPIRATION DATE OF THIS CREDIT.

IN THE EVENT THAT THE ORIGINAL OF THIS STANDBY LETTER OF CREDIT IS LOST, STOLEN, MUTILATED, OR OTHERWISE DESTROYED, WE HEREBY AGREE TO ISSUE A DUPLICATE ORIGINAL HEREOF UPON RECEIPT OF A WRITTEN REQUEST FROM YOU AND A CERTIFICATION BY YOU (PURPORTEDLY SIGNED BY YOUR AUTHORIZED REPRESENTATIVE) OF THE LOSS, THEFT, MUTILATION, OR OTHER DESTRUCTION OF THE ORIGINAL HEREOF.

EXCEPT SO FAR AS OTHERWISE EXPRESSLY STATED HEREIN, THIS STANDBY LETTER OF CREDIT IS SUBJECT TO THE "INTERNATIONAL STANDBY PRACTICES" (ISP 98) INTERNATIONAL CHAMBER OF COMMERCE (PUBLICATION NO. 590).

Very truly yours,

(Name of Issuing Bank)

By: __________

Exhibit 10.26

BLOOM ENERGY CORPORATION
2021 DEFERRED COMPENSATION PLAN
(formerly known as the Bloom Energy Corporation 2020 Non Employee Director Deferred Compensation Plan)

Bloom Energy Corporation, a Delaware corporation (the "**Company**"), hereby amends and restates the Bloom Energy Corporation 2020 Non Employee Director Deferred Compensation Plan and renames it the Bloom Energy Corporation 2021 Deferred Compensation Plan (the "**Plan**"). The Plan was originally effective as of December 31, 2019 (the "**Effective Date**"). This amendment and restatement of the Plan is effective as of January 19, 2021 (the "**A&R Effective Date**"). The Plan is intended to be, and shall be administered as, an unfunded plan maintained for the purpose of providing deferred compensation for non-employee members of the Board of Directors of the Company and a select group of management or highly compensated employees within the meaning of ERISA (as defined below). This Plan is also intended to comply with the requirements of Section 409A (as defined below).

1. **Purpose**. The purpose of the Bloom Energy Corporation 2021 Deferred Compensation Plan is to provide (x) non-employee members of the Board of Directors of the Company with the opportunity to elect to defer all or a portion of (i) the cash retainer fees otherwise payable to them by the Company into deferred stock units and (ii) the restricted stock units granted to them by the Company and (y) selected employees of the Company with the opportunity to elect to defer (i) certain cash compensation paid by the Company into deferred stock units and (ii) the restricted stock units granted to them by the Company.

2. **Definitions**. For purposes of the Plan:

(a) **"Account"** shall mean the separate account maintained on the books of the Company for each Participant pursuant to Section 5, consisting of, for Directors, the Cash Retainer Sub-Account and the RSU Sub-Account and, for Eligible Employees, the Regular Pay and Bonus Sub-Account and the RSU Sub-Account.

(b) **"Board"** shall mean the Board of Directors of the Company.

(c) **"Bonus"** shall mean one or more cash bonuses designated from time to time by the Committee as eligible for deferral under this Plan, including a Participant's bonus under the Company's short-term cash incentive plan.

(d) **"Code"** shall mean the Internal Revenue Code of 1986, as amended.

(e) **"Committee"** shall mean the Compensation and Organization Development Committee of the Board, or a subcommittee thereof, or such other committee designated by the Board to administer the Plan.

(f) **"Common Stock"** shall mean the Class A common stock, par value $0.0001 per share, of the Company, and all rights appurtenant thereto.

(g) **"Deferred Stock Units"** shall mean deferred restricted stock units credited to a Participant's Account pursuant to elections by the Participant under Section 4.

(h) **"Director"** shall mean any member of the Board who is not an employee of the Company or any of its Subsidiaries or affiliates.

(i) **"Eligible Employee"** shall mean an employee of the Company or of a Subsidiary who is a member of a select group of management or highly compensated employees within the meaning of ERISA, and has been selected by the Committee, and notified by the Company of eligibility, for Plan participation. Unless the Committee determines otherwise, Eligible Employee shall be limited to those employees of the Company with the title of Executive Vice President or a more senior title. An individual will cease to be an Eligible Employee on the earliest of (i) the date the individual ceases to be employed by the Company and all Subsidiaries, (ii) the date the Plan is terminated, or (iii) the date the Committee, in its discretion, determines that the individual is no longer an Eligible Employee. In addition to the foregoing, the Committee may, in its discretion, deny eligibility to any employee or group of employees who may previously have been Eligible Employees.

(j) **"ERISA"** shall mean the Employee Retirement Income Security Act of 1974, as amended.

(k) **"Fair Market Value"** means as of any date the closing price of the Common Stock as reported on the New York Stock Exchange for that date or, if no closing price is reported for that date, the closing price on the next preceding date for which a closing price is reported, unless otherwise determined by the Committee.

(l) **"Identification Date"** shall mean each December 31.

(m) **"Mid-Year Entrant"** shall mean an Eligible Employee (i) who is first notified that he or she has been selected for Plan participation during the calendar year in which his or her Plan participation will begin, and (ii) who has not been a Participant for twenty-four (24) months preceding the date such Eligible Employee is so notified.

(n) **"Participant"** shall mean a Director or Eligible Employee who makes a deferral election under Section 4 of the Plan.

(o) **"Plan"** shall mean the Bloom Energy Corporation 2021 Deferred Compensation Plan, as set forth herein and as amended from time to time.

(p) **"Regular Pay"** shall mean the pre-tax amount of an Eligible Employee's base salary. Regular Pay is determined on a "paycheck by paycheck" basis.

(q) **"Restricted Stock Units"** or **"RSUs"** shall mean restricted stock units granted to the Participant under the Stock Plan.

(r) **"Section 409A"** shall mean Section 409A of the Code.

(s) **"Separation from Service"** shall mean a "separation from service" from the Company, within the meaning of Section 409A and the regulations promulgated thereunder.

(t) **"Specified Employee"** shall mean a Participant who, on an Identification Date, is a "Specified Employee" as such term is defined in Section 409A. As of the A&R Effective Date, a Specified Employee is:

(i) An officer of the Company having annual compensation greater than the compensation limit in Section 416(i)(1)(A)(i) of the Code, provided that no more than fifty officers of the Company shall be determined to be Specified Employees as of any Identification Date;

(ii) A five percent owner of the Company regardless of compensation; or

(iii) A one percent owner of the Company having annual compensation from the Company of more than $150,000.

If a Participant is identified as a Specified Employee on an Identification Date, then such Participant shall be considered a Specified Employee for purposes of the Plan during the period beginning on the first April 1 following the Identification Date and ending on the next March 31.

(u) **"Stock Plan"** shall mean the Bloom Energy Corporation 2018 Equity Incentive Plan, as amended from time to time, or any successor equity plan adopted by the Company.

(v) **"Subsidiary"** shall mean any entity (other than the Company) in an unbroken chain of entities beginning with the Company, provided each entity (other than the last entity) in the unbroken chain owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of equity in one of the other entities in such chain.

3. **Administration**. The Plan shall be administered by the Committee. The Committee shall, subject to the terms of this Plan, interpret this Plan and the application thereof and establish, amend and revoke rules and regulations as it deems necessary or desirable for the administration of the Plan. All such interpretations, rules, regulations and conditions shall be final, binding and conclusive upon the Participants and all other persons having or claiming any right or interest in the Plan or the Deferred Stock Units.

A majority of the Committee shall constitute a quorum. The Committee shall take action either by (i) a majority of the members of the Committee present at any meeting at which a quorum is present or (ii) written approval by all of the members of the Committee without a meeting. The Committee may authorize any one or more of its members or any officer of the Company to execute and deliver documents on behalf of the Committee.

No member of the Board or Committee, and no officer of the Company to whom the Committee delegates any of its power and authority hereunder, shall be liable for any act, omission, interpretation, construction or determination made in connection with this Plan in good faith, and the members of the Board and the Committee and such officers shall be entitled to indemnification and reimbursement by the Company in respect of any claim, loss, damage or expense (including attorneys' fees) arising therefrom to the full extent permitted by law (except as otherwise may be provided in the Company's Certificate of Incorporation and/or By-laws) and under any directors' and officers' liability insurance that may be in effect from time to time.

4. **Deferrals.**

a. **Eligibility**. Each Director shall be eligible to participate in the Plan and to make the elections provided under Sections 4(b) and 4(c) and each Eligible Employee shall be eligible to participate in the Plan and to make the elections provided under Sections 4(c) and 4(d).

b. Director Deferral of Cash Retainer.

i. **Annual Elections**. Prior to the first day of each calendar year beginning on or after January 1, 2020, each Director may elect to defer payment of all or a portion of the Director's cash retainer fees to be earned in such calendar year that will be credited to the Cash Retainer Sub-Account of the Participant's Account. Any election made under this Section shall become irrevocable as of December 31 of the year prior to the year in which the services relating to the cash retainer fee are performed.

ii. **Initial Participant Elections**. An individual who becomes a Director for the first time after a calendar year has commenced may make a deferral election, not later than the 30th day following the date the individual becomes a Director, with respect to all or a portion of the Director's annual cash retainer that is earned after the date of such election that will credited to the Cash Retainer Sub-Account of the Participant's Account.

iii. **Effect of Elections**. Any election made pursuant to this Section 4(b) shall remain in effect for future calendar years unless and until the Participant makes a new election in accordance with Section 4(b)(i). In order to change the amount of a deferral for any subsequent calendar year (or to cease deferrals), a Participant must make a new election prior to the calendar year for which the new election is to be effective.

c. Deferral of Restricted Stock Units.

i. **Director Annual Elections**. Prior to the first day of each calendar year beginning on or after January 1, 2020, each Director may elect, in accordance with rules and procedures established by the Committee, to defer payment of all or a portion of the Restricted Stock Units granted to the Director in such calendar year that will be credited to the RSU Sub-Account of the Participant's Account. Any election made under this Section shall become irrevocable as of December 31 of the year prior to the year in which the RSUs relating to the election are granted.

ii. **Employee Annual Elections**. Prior to the first day of each calendar year beginning on or after January 1, 2022, each Eligible Employee may elect, in accordance with rules and procedures established by the Committee, to defer payment of all or a portion of the Restricted Stock Units granted to the Eligible Employee in such calendar year that will be credited to the RSU Sub-Account of the Participant's Account. Any election made under this Section shall become irrevocable as of December 31 of the year prior to the year in which the RSUs relating to the election are granted.

iii. **Initial Participant Elections**. An individual who becomes a Director or Eligible Employee, as applicable, for the first time after a calendar year has commenced may make a deferral election, not later than the earlier of (i) the 30th day following the date the individual becomes a Director or Eligible Employee, as applicable and (ii) to the extent permitted by Section 409A, the day prior to the grant of Restricted Stock Units in such calendar year to the Director or Eligible Employee, as applicable, with respect to all or a portion of the RSUs granted to the Participant in such calendar year that will credited to the RSU Sub-Account of the Participant's Account.

iv. **Effect of Elections**. Any election made pursuant to this Section shall remain in effect for future calendar years unless and until the Participant makes a new election in accordance with Section 4(c)(i) or 4(c)(ii), as applicable. In order to change the number of Restricted Stock Units deferred for any subsequent calendar year (or to cease deferrals), a Participant must make a new election prior to the calendar year for which the new election is to be effective.

d. Employee Deferral of Regular Pay and Bonus.

i. **Regular Pay and Bonus Deferrals.** An Eligible Employee may elect to defer up to 50% of his or her Regular Pay and up to 50% of each Bonus for which he or she is eligible, in either case of a deferral of Regular Pay or a Bonus, net of any applicable withholding taxes or other authorized deductions to the extent required so that such applicable withholding taxes or other authorized deductions shall be satisfied from the Regular Pay or Bonus, as the case may be, by submitting a written election to the Committee that satisfies such requirements, including such minimum deferral amounts, as the Committee may determine. Participants will be 100% vested in these deferrals.

ii. **Annual Elections.** Prior to the commencement of each calendar year, an Eligible Employee may make two separate deferral elections: an election to defer Regular Pay earned with respect to such calendar year and an election to defer any Bonus earned with respect to the fiscal year ending within such calendar year. Elections must be made before the beginning of the calendar year in which the Regular Pay is earned, and with respect to a Bonus that qualifies as performance-based compensation under Section 409A of the Code, no less than 6 months before the end of the applicable bonus performance period. An election is irrevocable after it is made and shall remain in effect for the next calendar year. Such deferrals will be credited to the Regular Pay and Bonus Sub-Account of the Participant's Account.

iii. **Late Election.** If an Eligible Employee does not make a timely election for an upcoming calendar year, no deferral will be made on behalf of that Eligible Employee with regard to that election for that upcoming calendar year.

iv. **Initial Election.** Notwithstanding the timing provisions in paragraph (a) above, a Mid-Year Entrant who is first notified that he is eligible to participate in the Plan on or before October 1 of any calendar year may elect within 30 days after the date the Mid-Year Entrant is notified of his or her eligibility to defer (i) Regular Pay for services to be performed subsequent to the date the election is made and (ii) Bonus earned for services after the effective date of the initial election. An initial election made pursuant to this Section 4(d)(iv) shall remain in effect until the end of the calendar year in which it is made. Such deferrals will be credited to the Regular Pay and Bonus Sub-Account of the Participant's Account.

5. **Account.**

a. **Cash Retainers; Regular Pay and Bonus.** The crediting of Deferred Stock Units to the Cash Retainer Sub-Account or Regular Pay and Bonus Sub-Account, as applicable, of the Participant's Account with respect to the deferral of cash retainer fees pursuant to Section 4(b) or Regular Pay and/or Bonus pursuant to Section 4(d), as applicable, shall be made as of the dates the compensation earned by the Participant during the applicable calendar year would otherwise have been payable to the Participant; provided, however, that for Regular Pay such amounts shall be credited on the last day of each month, rather than on the applicable payroll date. The number of Deferred Stock Units to be credited shall be equal to the result of dividing the amount deferred as of each such date by the Fair Market Value of one share of Common Stock on such date.

b. **Restricted Stock Units.** The crediting of Deferred Stock Units to the RSU Sub-Account of the Participant's Account with respect to the deferral of Restricted Stock Units pursuant to Section 4(c) shall be made as of the dates the RSUs granted to the Participant during the applicable calendar year become vested. The number of Deferred Stock Units to be credited shall be equal to the number of RSUs that are deferred by the Participant as of such date.

c. **Cash Dividends.** Whenever any cash dividends are declared on the Common Stock, the Company will credit the Cash Retainer Sub-Account or Regular Pay and Bonus Sub-Account, as applicable, and the RSU Sub-Accounts of the Account of each Participant on the date such dividend is paid with a number of additional Deferred Stock Units equal to the result of dividing (i) the product of (x) the total number of Deferred Stock Units credited to the Participant's Sub-Account on the record date for such dividend and (y) the per share amount of such dividend by (ii) the Fair Market Value of one share of Common Stock on the date such dividend is paid by the Company to the holders of Common Stock.

d. **Capitalization Adjustments.** In the event of (i) any change in the Common Stock through a merger, consolidation, reorganization, recapitalization or otherwise, (ii) a stock dividend, or (iii) a stock split, combination or other changes the Common Stock, all as described in Section 2.6 of the Stock Plan, the Deferred Stock Units credited to the Sub-Accounts of the Account of each Participant shall be increased or decreased proportionately in accordance with Section 2.6 of the Stock Plan.

6. **Payment of Account**. Payment of the Cash Retainer Sub-Account or Regular Pay and Bonus Sub-Account, as applicable, and RSU Sub-Accounts of the Participant's Account shall be paid to the Participant (or, in the event of the Participant's death, to the Participant's beneficiary, as provided in Section 8) in shares of Common Stock equal to the number of Deferred Stock Units credited to each Sub-Account (provided that any fractional Deferred Stock Units shall be paid in cash based on the Fair Market Value of one share of Common Stock on the payment date), as provided below. Deferred Stock Units issued and settled under this Plan shall be granted under the Stock Plan and shall be considered "Restricted Stock Units" granted pursuant to Section 9 of the Stock Plan.

a. **Cash Retainer Sub-Account or Regular Pay and Bonus Sub-Account**. Amounts credited to the Cash Retainer Sub-Account, in the case of a Director, or to the Regular Pay and Bonus Sub-Account, in the case of an Eligible Employee, with respect to a deferral year shall be paid, as elected by the Participant, as follows:

v. in a single lump sum on the January 1st following the date the Participant incurs a Separation from Service for any reason other than his or her death;

vi. in up to three annual installments beginning on the January 1st following the date the Participant incurs a Separation from Service for any reason other than his or her death, as irrevocably designated by the Participant with respect to the applicable deferral year;

vii. in a single lump sum on the January 1st following a specified payment date that is no more than five years following the deferral year, as irrevocably designated by the Participant with respect to the applicable deferral year; or

viii. in up to three annual installments beginning on the January 1st following a specified payment date that is no more than five years following the deferral year, as irrevocably designated by the Participant with respect to the applicable deferral year.

In the absence of an effective election with respect to a deferral year, payment shall be made in accordance with sub-paragraph (i) above for such deferral year.

b. **RSU Sub-Account**. RSUs credited to the RSU Sub-Account with respect to a deferral year shall be paid, as elected by the Participant, as follows:

ix. in a single lump sum on the January 1st following the date the Participant incurs a Separation from Service for any reason other than his or her death;

x. in up to three annual installments beginning on the January 1st following the date the Participant incurs a Separation from Service for any reason other than his or her death, as irrevocably designated by the Participant with respect to the applicable deferral year;

xi. in a single lump sum on the January 1st following a specified payment date that is no more than five years following the deferral year, as irrevocably designated by the Participant with respect to the applicable deferral year; or

xii. in up to three annual installments beginning on the January 1st following a specified payment date that is no more than five years following the deferral year, as irrevocably designated by the Participant with respect to the applicable deferral year.

In the absence of an effective election with respect to a deferral year, payment shall be made in accordance with sub-paragraph (i) above for such deferral year.

c. **Distribution upon Death.** If a Participant incurs a Separation from Service due to death or his or her death occurs after Separation from Service but before payment to him or her of the entire balance of his or her Cash Retainer Sub-Account or Regular Pay and Bonus Sub-Account, as applicable, or RSU Sub-Account, all or the remaining balance of his or her Cash Retainer Sub-Account or Regular Pay and Bonus Sub-Account, as applicable, or RSU Sub-Account shall be paid to such Participant's beneficiaries in a lump sum on the 10th business day following the date of death.

d. **Redeferral Election.** A Participant may modify a prior election regarding the time of distribution under this Section 6, provided that any such election (i) shall not be effective until twelve (12) months after the date on which the new election is made; (ii) must be made at least twelve (12) months in advance of the first scheduled payment date; and (iii) must provide for a new payment date that is at least five years after the first scheduled payment date.

e. **Delayed Distribution to Specified Employees.** Notwithstanding any other provision of this Section 6 to the contrary, a distribution scheduled to be made to a Participant upon his or her Separation from Service who is identified as a Specified Employee as of the date such Participant Separates from Service shall be delayed for a minimum of six months following the Participant's Separation from Service. Any payment that otherwise would have been made pursuant to this Section 6 during the six-month period following the Participant's Separation from Service shall be made as soon as administratively practicable, but not later than 90 days after the six-month anniversary of the Participant's Separation from Service. The identification of a Participant as a Specified Employee shall be made by the Committee in its sole discretion in accordance with the terms of the Plan and Sections 416(i) and 409A of the Code and the regulations promulgated thereunder.

7. **Corporate Transaction**. In the event of a Corporate Transaction (as defined in the Stock Plan as in effect at the time of the deferral election) that constitutes a change in the ownership or effective control of the Company or in the ownership of a substantial portion of the Company's assets under Section 409A, the Account of each Participant shall be settled in shares of the successor entity in accordance with the terms of the Stock Plan or, if elected by the Board, shall be paid to the Participant in a lump sum in cash within ten business days after the date of the Corporate Transaction, with such cash amount equal to the result of multiplying (i) the number of Deferred Stock Units credited to the Participant's Account on the Corporate Transaction date by (ii) the Fair Market Value of one share of Common Stock on the Corporate Transaction date.

8. **Beneficiary Designation**. Each Participant shall have the right, at any time, to designate any person or persons as his beneficiary or beneficiaries to whom payment under the Plan shall be paid in the event of his or her death prior to payment to the Participant of his or her Account. Any beneficiary designation may be made or changed by a Participant by a written instrument, in such form prescribed by the Committee, which is filed with the Company prior to the Participant's death. If a Participant fails to designate a beneficiary, or if all designated beneficiaries predecease the Participant, the Account shall be paid to the Participant's estate.

9. **Withholding**. The Company will deduct from Plan distributions, or from other compensation payable to a Participant or beneficiary, amounts required by law to be withheld for taxes with respect to benefits under this Plan. The Company reserves the right to reduce any deferral or contribution that would otherwise be made to this Plan on behalf of a Participant by a reasonable amount, and to use all or a portion of this reduction to satisfy the Participant's tax liabilities under this Section 9.

10. **Amendment and Termination**. The Board may amend or terminate the Plan at any time in whole or in part; provided, however, that no amendment or termination shall reduce the Deferred Stock Units credited to a Participant's Account (except in the case of any adjustments in accordance with Section 2.6 of the Stock Plan) or adversely affect the rights of a Participant to such Deferred Stock Units, without the consent of the Participant (or the Participant's beneficiary in the event of the Participant's death). Notwithstanding the foregoing, the Plan may be amended at any time, without the consent of any Participant (or beneficiary) if necessary or desirable to comply with the requirements, or avoid the application, of Section 409A.

11. **General Provisions.**

a. **Unfunded Plan**. The Company's obligation to make payment under the Plan shall be contractual only and all payments hereunder shall be made by the Company from its general assets at the time and in the manner provided for in the Plan. No funds, securities or other property of any nature shall be segregated or earmarked for any current or former Participant, beneficiary or other person, and his or her sole right is as a general creditor of the Company with an unsecured claim against its general assets.

b. **Non-Alienation of Benefits**. Neither a Participant nor any other person shall have any rights to sell, assign, transfer, pledge, anticipate, or otherwise encumber the amounts, if any, payable under the Plan to the Participant or any other person. Any attempted sale, assignment, transfer or pledge shall be null and void and without any legal effect. No part of the amounts payable under the Plan shall be subject to seizure or sequestration for the payment of any debts, judgments, alimony or separate maintenance owed by a Participant or any other person, nor be transferable by operation of law in the event of a Participant's or any other person's bankruptcy or insolvency.

c. **Section 409A**. Notwithstanding any provision of the Plan to the contrary, the Plan will be construed, administered or deemed amended as necessary to comply with the requirements of Section 409A to avoid taxation under Section 409A to the extent Section 409A applies to the Plan. Each payment and benefit hereunder shall constitute a "separately identified" amount within the meaning of Treasury Regulation §1.409-2(b)(2). The Committee, in its sole discretion shall determine the requirements of Section 409A that are applicable to the Plan and shall interpret the terms of the Plan in a manner consistent therewith. Under no circumstances, however, shall the Company or any affiliate or any of its or their employees, officers, directors, service providers or agents have any liability to any person for any taxes, penalties or interest due on amounts paid or payable under the Plan, including any taxes, penalties or interest imposed under Section 409A.

d. **No Stockholder Rights**. Neither the Participant nor any other person shall have any rights as a stockholder of the Company with respect to the Deferred Stock Units credited to the Participant's Account until the shares of Common Stock are issued to the Participant (or the beneficiary of the Participant).

e. **Severability**. If any provision of the Plan shall be held illegal or invalid for any reason, such illegality or invalidity shall not affect the remaining provisions of the Plan, and the Plan shall be enforced as if the invalid provisions had never been set forth therein.

f. **Successors in Interest**. The obligation of the Company under the Plan shall be binding upon any successor or successors of the Company, whether by merger, consolidation, sale of assets or otherwise, and for this purpose reference herein to the Company shall be deemed to include any such successor or successors.

g. **Governing Law; Interpretation**. To the extent not governed by Federal law, the Plan shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to principles of conflict of laws.

h. **Claims and Review Procedure**.

(i) Informal Resolution of Questions. Any Participant or beneficiary who has questions or concerns about his or her benefits under the Plan is encouraged to communicate with the EVP, General Counsel If this discussion does not give the Participant or beneficiary satisfactory results, a formal claim for benefits may be made within one year of the event giving rise to the claim in accordance with the procedures of this Section 11(h).

(ii) Formal Benefits Claim – Review by the EVP, General Counsel. A Participant or beneficiary may make a written request for review of any matter concerning his or her benefits under this Plan. The claim must be addressed to the Bloom Energy Corporation 2021 Deferred Compensation Plan, Attn: EVP, General Counsel 4353 N. 1st Street, San Jose Ca 95134. The EVP, General Counse, shall decide the action to be taken with respect to any such request and may require additional information if necessary to process the request. The EVP, General Counsel shall review the request and shall issue his or her decision, in writing, no later than 90 days after the date the request is received, unless the circumstances require an extension of time. If such an extension is required, written notice of the extension shall be furnished to the person making the request within the initial 90-day period, and the notice shall state the circumstances requiring the extension and the date by which the EVP, General Counsel expects to reach a decision on the request. In no event shall the extension exceed a period of 90 days from the end of the initial period.

(iii) Notice of Denied Request. If the EVP, General Counsel denies a request in whole or in part, he or she shall provide the person making the request with written notice of the denial within the period specified in paragraph (ii) above. The notice shall set forth the specific reason for the denial, reference to the specific Plan provisions upon which the denial is based, a description of any additional material or information necessary to perfect the request, an explanation of why such information is required, and an explanation of the Plan's appeal procedures and the time limits applicable to such procedures, including a statement of the claimant's right to bring a civil action under Section 502(a) of ERISA following an adverse benefit determination on review.

(iv) Appeal to Committee.

(1) A person whose request has been denied in whole or in part (or such person's authorized representative) may file an appeal of the decision in writing with the Committee within 60 days of receipt of the notification of denial. The appeal must be addressed to the Bloom Energy Corporation 2021 Deferred Compensation Plan, Attn: Nonqualified Deferred Compensation Plan Administrative Committee, 4353 N. 1st Street, San Jose, Ca 95134. The Committee, for good cause shown, may extend the period during which the appeal may be filed for another 60 days. The appellant and/or his or her authorized representative shall be permitted to submit written comments, documents, records and other information relating to the claim for benefits. Upon request and free of charge, the applicant should be provided reasonable access to and copies of, all documents, records or other information relevant to the appellant's claim.

(2) The Committee's review shall take into account all comments, documents, records and other information submitted by the appellant relating to the claim, without regard to whether such information was submitted or considered in the initial benefit determination. The Committee shall not be restricted in its review to those provisions of the Plan cited in the original denial of the claim.

(3) The Committee shall issue a written decision within a reasonable period of time but not later than 60 days after receipt of the appeal, unless special circumstances require an extension of time for processing, in which case the written decision shall

be issued as soon as possible, but not later than 120 days after receipt of an appeal. If such an extension is required, written notice shall be furnished to the appellant within the initial 60-day period. This notice shall state the circumstances requiring the extension and the date by which the Committee expects to reach a decision on the appeal.

(4) If the decision on the appeal denies the claim in whole or in part written notice shall be furnished to the appellant. Such notice shall state the reason(s) for the denial, including references to specific Plan provisions upon which the denial was based. The notice shall state that the appellant is entitled to receive, upon request and free of charge, reasonable access to, and copies of, all documents, records, and other information relevant to the claim for benefits. The notice shall describe any voluntary appeal procedures offered by the Plan and the appellant's right to obtain the information about such procedures. The notice shall also include a statement of the appellant's right to bring an action under Section 502(a) of ERISA.

(5) The decision of the Committee on the appeal shall be final, conclusive and binding upon all persons and shall be given the maximum possible deference allowed by law.

(v) Exhaustion of Remedies. No legal or equitable action for benefits under the Plan shall be brought unless and until the claimant has submitted a written claim for benefits in accordance with paragraph (ii) above, has been notified that the claim is denied in accordance with paragraph (iii) above, has filed a written request for a review of the claim in accordance with paragraph (iv) above, and has been notified in writing that the Committee has affirmed the denial of the claim in accordance with paragraph (iv) above; provided, however, that an action for benefits may be brought after the EVP, General Counsel or Committee has failed to act on the claim within the time prescribed in paragraph (ii) and paragraph (iv), respectively. A claimant or his or her authorized representative must initiate any such legal action for benefits within the later of twelve months after: (x) the date that the EVP, General Counsel or the Committee has failed to take any action on the claim within the time prescribed by paragraph (ii) or (iv) above; or (y) the date of the final denial of a claim under the Plan pursuant to paragraph (iv) above. Any legal action brought after such twelve-month time period will be time barred and cannot be brought in any forum. Any legal action in connection with the Plan may only be brought in the United States District Court for the Northern District of California. In any such legal action, claimant may not present any evidence not timely presented to the EVP, General Counsel or the Committee as part of the Plan's administrative review process set forth in this Section 11(h).

Exhibit 10.44

Preferred Distributor Agreement

This Preferred Distributor Agreement (the "Agreement") is entered into as of January 30, 2019 (the "Effective Date") by and between Bloom Energy Corporation ("Company"), a corporation established under the laws of the State of Delaware, United States of America, and SK D&D Co., Ltd, a corporation established under the laws of the Republic of Korea ("Distributor"). Each of Company and Distributor are a "Party" and together are the "Parties".

RECITALS

WHEREAS, Company develops, manufactures and supplies certain Products in connection with electric power facilities. Distributor is experienced and engaged in the business of engineering, procuring, and constructing electric power facilities on a turnkey basis, including the distribution of electric power generation components integrated into such facilities; and

WHEREAS, the Parties desire to set forth the terms and conditions pursuant to which Distributor shall acquire Products from Company and distribute them to Customers located in the Republic of Korea pursuant to the turnkey development, engineering, procurement, and construction of solid oxide fuel cell generation facilities, all as further described herein.

NOW, THEREFORE, in consideration of the mutual covenants, representations, warranties and agreements hereinafter set forth, and intending to be legally bound hereby, the Parties agree as follows:

AGREEMENT

1. Definitions and Rules of Interpretation.

(a) Definitions.

"Ancillary Equipment" means, collectively, the Company-Required Ancillary Equipment and the Distributor-Procured Ancillary Equipment.

"Bloom Energy Server" means the solid oxide fuel cell server manufactured by Company, consisting of the exterior box and all components inside, including without limitation the fuel cell stack and power electronics.

"Bundang Standard" means a limitation of liability in each service year equal to […***…] of the annual LTSA service fee for such service year; provided, that if liability for liquidated damages in any year exceed the foregoing limitation, then such underperformance will be debited from the performance bank for the following service year.

"Business Day" means Monday through Friday, between 9am and 5pm in the location of the Project site, excluding Korean holidays.

"Claims" shall have the meaning given to it in Section 11(b) hereof.

"Commissioning Capacity Specification" means the Rated Capacity specification required for Products to pass the Commissioning Test applicable to such Products, as defined in the Purchase Order for such Products.

"Commissioning Completion" shall have the meaning given to it in Section 4(a) hereof.

"Commissioning Duration Specification" means the period of time during which the Commissioning Test for Products is performed, as defined in the Purchase Order for such Products.

"Commissioning Efficiency Specification" means the Efficiency specification required for Products to pass the Commissioning Test applicable to such Products, as defined in the Purchase Order for such Products.

"Commissioning Test" means the testing of the Products for a Project to determine whether it achieves the Commissioning Efficiency Specification when brought to the Commissioning Capacity Specification for the Commissioning Duration Specification, calculated by dividing (a) the AC electrical output (expressed in Therms) of the Products as measured at the Products' transformers, by (b) the total LHV fuel input (expressed in Therms) of the Products, as measured at the Products' Company-designated gas meter. The Commissioning Test includes the pre-power up check, fuel flow test, water system test, communication system test, and items as may be specified in a Purchase Order.

"Company Performance LD Cap" shall have the meaning given to it in Section 3(c)(ii) hereof.

"Company-Required Ancillary Equipment" means equipment for a Project, other than the Bloom Energy Server, which Distributor must purchase from Company to enable installation and operation, including without limitation equipment set forth on Exhibit A, as may be updated and delivered to Distributor from time to time.

"Company Trademarks" shall have the meaning given to it in Section 9(f) hereof.

"Confidential Information" shall mean (i) any information disclosed by Company to Distributor that is in written, graphic, machine readable or other tangible form and is marked "Confidential," "Proprietary" or in some other manner to indicate its confidential nature; (ii) oral information disclosed by Company to Distributor pursuant to this Agreement that is designated as confidential at the time of disclosure, and reduced to a writing marked as confidential and delivered by Company to Distributor within a reasonable time; (iii) any information a reasonable person in the circumstances would understand to be confidential, including without limitation non-public information contained in an RFP submission and the pricing terms of this Agreement. Notwithstanding any failure to so identify it, all non-public information embodied in the Products, including without limitation the source code underlying object code and bitmaps embodied in the Products, shall be Confidential Information.

"Customer" means any third party that obtains a Product integrated into a solid oxide fuel cell power facility in the Territory for the purpose of generating electricity, and not for further distribution or resale.

"Customer Agreement" means an agreement between a Customer and Distributor for the supply of Products. Where Distributor is the EPC Contractor for a Project, the Customer Agreement may be an EPC Agreement. Where Distributor is not the EPC Contractor for a Project, the Customer Agreement is not required to be the EPC Agreement.

"D&D Project" shall have the meaning given to it in Section 2(c)(i).

"Delivery" shall have the meaning given to it in Section 7(d)(i) hereof.

[...*...]**.

"Distributor-Procured Ancillary Equipment" means equipment for a Project, not including the Bloom Energy Server and Company-Required Ancillary Equipment, which Distributor may procure from suppliers other than Company, for use in the installation of a Project.

"Documentation" means published written documentation related to the specifications, performance, installation, use or maintenance of the Products provided by Company or a Supplier under this Agreement.

"EPC" means "engineering, procurement, and construction."

"EPC Contractor" is the entity responsible for engineering, procuring and constructing each Project.

[...*...]**.

"Force Majeure" means any act or circumstance that delays or interferes with the affected Party's performance of its obligations in accordance with this Agreement, if such act or event is beyond the reasonable control, and not the result of the fault or negligence, of the affected Party. "Force Majeure" shall include the following acts or events:

(i) acts of God;

(ii) acts of civil or military authority, war, riot, or other civil disturbances;

(iii) fire or explosions not caused by the Products;

(iv) the elements, extraordinarily extreme weather, and acts of nature, or environmental factors including storms, floods, dust, lightning and earthquakes;

(v) failure to maintain gas pressure or gas quality requirements at the input of the Product;

(vi) a malfunction or failure of the electric grid at the applicable site of the Project (e.g. a brownout or blackout), including without limitation, the failure of the electric grid to comply with, as applicable, the standards set forth in the IEEE Standard 1547 for Interconnecting Distributed Resources with Electric Power System, as may be amended from time to time;

(vii) sabotage, vandalism, theft, accident or destruction caused by a third party (other than a contractor retainer by either Party), that materially impair either Party's ability to perform its obligations under this Agreement;

(viii) any issues caused by the addition or operation of onsite generation or electrical infrastructure not comprising the Products;

(ix) strikes, walkouts, lockouts or similar labor actions or disputes;

(x) or any other cause or causes which are beyond such Party's reasonable control; or

(xi) the inability to connect to the internet, or any other failure or unavailability of internet connectivity or availability for any cause whatsoever, including fiber optic cable cuts, interruption or failure of digital transmission links, hacker attacks.

"Force Majeure" shall not include a Party's financial inability to perform under this Agreement.

"Indemnified Parties" shall have the meaning given to it in Section 11(b) hereof.

"Indemnifying Party" shall have the meaning given to it in Section 11(b) hereof.

"Initial Term" shall have the meaning given to it in Section 13(a) hereof.

"Invoice Due Date" means, for invoices issued by Company (a) prior to January 1, 2019, within [...***...] of receipt of such invoice; and (b) on or after January 1, 2019, within [...***...] of receipt of such invoice.

"kW" means kilowatts, and "MW" means megawatts. All references to kW and MW of Projects refer to the rated output of such Projects.

[...***...].

"Licensed Material" means (a) the Products, and (b) all documentation delivered hereunder by Company to Distributor for use pursuant to the terms and conditions of this Agreement.

"Limited License" shall have the meaning set forth in Section 9(b) hereof.

"LTSA" means the "long term service agreement" pursuant to which O&M services for a Project are rendered.

"Major Subcontract" means any subcontract or series of subcontracts for the performance of Distributor's obligations under this Agreement or under a Customer Agreement, having an aggregate value in excess of fifty percent (50%) of the engineering and construction budget for such Project.

"Market" means Projects in the Territory.

"Marketing Materials" shall have the meaning set forth in Section 9(h) hereof.

"Notice of Commissioning Completion" shall have the meaning given to it in Section 4(a) hereof.

"O&M" shall have the meaning given to it in Section 3(a) hereof.

"Performance Insurance" means a policy of insurance covering Company's non-payment of amounts due to Customer pursuant to a LTSA in connection with a refund, repurchase, or similar consideration for passage of title and possession to the applicable Products to Company.

"Permitted Subcontractor" means a subcontractor set forth on Exhibit B, or otherwise approved by Company in writing, not to be unreasonable withheld, delayed, or denied; provided, however, that in no event shall a competitor or potential competitor to Company be a Permitted Subcontractor".

"Pre-Commissioning Completion Warranty" shall have the meaning given to it in Section 4(b)(i) hereof.

"Pre-Commissioning Completion Warranty Period" shall have the meaning given to it in Section 4(b)(i) hereof.

"Product" means any of the Bloom Energy Server and Company-Required Ancillary Equipment and any Software, Documentation or Updates provided pursuant to this Agreement.

"Product Price" shall have the meaning given to it in Section 6(a)(i) hereof.

"Prohibited Activities" shall have the meaning set forth in Section 9(c) hereof.

"Project" means a fuel cell energy generation project composed of Bloom Energy Servers, together with applicable Company-Required Ancillary Equipment and Distributor-Procured Ancillary Equipment.

"Purchase Order" shall have the meaning given to it in Section 7(b) hereof.

"Rated Capacity" means the aggregate rated capacity (expressed in kW) of the Bloom Energy Servers included in the Project, as set forth in a duly-accepted Purchase Order.

"Renewal Term" shall have the meaning given to it in Section 13(a) hereof.

"ROFR" shall have the meaning given to it in Section 2(a) hereof.

"ROFR Exercise Period" shall have the meaning given to it in Section 2(a) hereof.

"Second Distributor" means SK Engineering & Construction Co., Ltd.

"Second Distributor Agreement" means that certain Preferred Distributor Agreement, dated as of November 14, 2018, by and between Company and Second Distributor, as amended by that certain Amendment No. 1 to Preferred Distributor Agreement, dated as of December 19, 2018, by that certain Amendment No. 2 to Preferred Distributor Agreement, dated as of even date herewith, and as may be further amended, amended and restated, supplemented, or otherwise modified from time to time in accordance with its terms.

"Standard Performance Commitments" means:

(a) Performance Guarantee (i.e. remedy is payment of liquidated damages): (i) [...***...] lifetime cumulative total output factor with banking (pre-transformer); (ii) if required by Customer, [...***...] lifetime cumulative LHV efficiency with banking (pre-transformer); and

(b) Performance Warranty (i.e. remedy is repair, replacement, repurchase): (i) [...***...] lifetime cumulative total output factor with banking (pre-transformer); (ii) if required by Customer, [...***...] lifetime cumulative LHV efficiency with banking (pre-transformer).

"Software" means the software provided by Company or a Supplier pursuant to this Agreement.

"Suppliers" means any providers of third party software that is included with Software provided under this Agreement.

"Technical Advisor" shall have the meaning give to it in Section 4(c) hereof.

"Term" shall have the meaning given to it in Section 13(a) hereof.

“Territory” means the Republic of Korea.

“Third Party Software” has the meaning given to it in Section 9(d) hereof.

“Tri-Party Agreement” means that certain Tri-Party Consent and Agreement, dated as of even date herewith, by and among Company, Distributor, and Second Distributor, as may be amended, amended and restated, supplemented, or otherwise modified from time to time in accordance with its terms.

“Updates” means any corrections, enhancements, bug fixes or other modifications for the Products provided to Distributor by Company pursuant to this Agreement.

“Warranty Correction” shall have the meaning given to it in Section 4(b)(ii) hereof.

(b) Rules of Interpretation. Unless a clear contrary intention appears, (i) the singular includes the plural and vice versa; (ii) “include” or “including” means including without limiting the generality of the description preceding such term; (iii) the word “or” is not exclusive, unless otherwise expressly stated; (iv) headings are provided for the convenience of the parties and shall not affect the interpretation of a provision; (v) all references to days or time shall mean such day or time in California, U.S.A., except as may be expressly set forth in a Purchase Order; (vi) all references to money shall be in United States dollars; except as may be expressly set forth in a Purchase Order; and (vii) all references to “Korea” refer to the Republic of Korea. References to sections, exhibits and schedules are, unless otherwise indicated, references to sections, exhibits, and schedules to this Agreement. References to an exhibit shall mean the referenced exhibit and any sub-exhibits, schedules, sub-parts, components or attachments included therewith. References to a section shall mean the referenced section and all sub-sections thereof. All exhibits attached to this Agreement are incorporated herein by this reference and made a part hereof for all purposes.

2. ROFR; Appointment of Distributor.

(a) Right of First Refusal. Company shall have the right of first refusal during the Term (the “ROFR”) to serve as Distributor’s supplier of the generation equipment for any D&D Project in the Territory. The ROFR is exercisable within ninety (90) days (“ROFR Exercise Period”) from the date that Distributor delivers written notice to Company, requesting Company’s determination of whether it will exercise its ROFR for such D&D Project. When Distributor requests Company’s determination of whether it will exercise its ROFR for a D&D Project, then notwithstanding whether the ROFR is exercised within ROFR Exercise Period for such D&D Project, Distributor shall continue to serve as the distributor for such D&D Project.

(b) The ROFR will automatically terminate, and Distributor may determine whether to pursue such D&D Project, by itself or with third parties, without the involvement Company, if Company does not deliver written notice within the ROFR Exercise Period that it wishes to exercise right to serve as supplier for such D&D Project. The ROFR is not a right to require that Company or Distributor consummate any particular sales or service transaction for any particular D&D Project. Company and Distributor may each, in its sole discretion and for any reason, determine whether to pursue or consummate any D&D Project and enter into a Purchase Order. If a Party chooses not to pursue or consummate any transaction for which the ROFR has been exercised within the ROFR Exercise Period, such Party shall not thereafter pursue or consummate such D&D Project by itself or with a third party. For the avoidance of doubt, Company shall have no right with respect to any D&D Project for which it does not exercise its right to serve as supplier within the ROFR Exercise Period.

(c) D&D Projects.

a. Definition. "D&D Project" means any fuel cell generation project in the Territory which is expected to be owned, prior to the Commissioning Completion Date, (a) directly by Distributor as a licensed and registered independent power producer; or (b) by a special purpose company in which Distributor directly or indirectly has majority or minority, controlling or non-controlling, equity ownership interest; provided, however, that the foregoing definition shall be subject to mutually-agreed written modification in accordance with Section 2(c)(ii).

b. Prior to the expiration of the Initial Term and each Renewal Term, Distributor and Company may mutually agree in writing upon an adjustment to the definition of "D&D Project" for use during the upcoming Renewal Term, based upon market conditions, technological development, and other relevant factors; provided, however, that the definition used during the Initial Term shall not be excluded from the term to be applicable during the upcoming Renewal Term.

(d) Material Breach. If Distributor offers a D&D Project to a third party that is subject to the Company ROFR without first sending a notice to Company in accordance with Section 2(a), it shall constitute a material breach of the Agreement, but may be cured by revoking such offer to the third party within five (5) days of written notice thereof and thereafter proceeding in accordance with ROFR procedures set forth in Section 2(a).

(e) Business Plan Target and ROFR.

a. Business Plan Target. The Parties shall make best efforts to attain [...***...] of executed Purchase Orders during the Initial Term. If the Parties renew for any Renewal Term, the business plan target(s) for such Renewal Term shall be determined by mutual written agreement. If the Parties do not renew for any Renewal Term, there shall be no liability for either Party arising out of the failure to achieve the prior business plan target.

b. Appointment.

(1) Subject to the terms and conditions of this Agreement and the Tri-Party Agreement, Company hereby appoints Distributor, for the Term, as an authorized distributor of the Products from Company for redistribution to Customers pursuant to each Project in the Territory for which Distributor has exercised the ROFR pursuant to Section 2(a). This appointment is nonexclusive with respect to Projects outside the Territory, Projects for which Distributor has not exercised the ROFR pursuant to Section 2(a), Projects with Second Distributor, and Projects for which contracted sales occur following the expiration of the Term or earlier termination of this Agreement in accordance with its terms. In such cases, Company reserves the right to license and distribute the Products directly and through any other remarketers, dealers, distributors, sales representatives or other channels and for any purposes. In such cases, Company reserves the right to market and sell upgrades for the Products and/or other products or services to any Customer that has previously obtained a licensed Product from Distributor. Subject to the terms and conditions of this Agreement, Distributor will be free to establish its own pricing for Products.

(2) Each license of Products from Company to Distributor pursuant to this Agreement shall be subject to, and governed by, this Agreement, including without limitation the intellectual property provisions set forth in Section 9, and the export and import restrictions set forth in forth in Section 14. Company shall not be bound by, and specifically objects to, any term, condition or other provision which is different from or in addition to the provisions of this Agreement and which is submitted by Distributor in any order, receipt, acceptance, confirmation, correspondence or otherwise, unless Company specifically agrees to such provision in a writing signed by Company.

(f) Second Distributor. The Parties acknowledge that (a) Company and Second Distributor have entered into the Second Distribution Agreement, and (b) the Parties and Second Distributor have entered into the Tri-Party Agreement. The Parties agree that, notwithstanding anything in this Agreement to the contrary, including without limitation Section 2 hereof, Second Distributor may serve as a distributor of Company in the Territory and Company may supply Products and Ancillary Equipment to Second Distributor for Projects in the Territory, in each case without any obligation to notify or receive the consent of Distributor. The Parties agree that all disputes related to or arising out of Company's relationship with Second Distributor or any supply or service transaction conducted between Company and Second Distributor shall be exclusively and finally resolved pursuant to the terms and conditions of the Tri-Party Agreement.

3. Resale Terms and Conditions.

(a) Intellectual Property.

a. Distributor shall comply with all intellectual property limitations set forth in Section 9.

b. Distributor shall make best efforts to ensure that the intellectual property provisions of the Customer Agreement (and, if applicable, related RFP bid materials) comply with the following requirements, and shall receive Company's written consent prior to executing a Customer Agreement (which may occur as early as submission of RFP bid materials) which does not comply with such provisions: (a) Company shall have the exclusive right to conduct all monitoring, control, operations, and maintenance activities ("O&M") for each Project during the life thereof; (b) Customer and all third parties shall otherwise comply with the Prohibited Activities; (c) Company shall have a right of re-purchase upon abandonment, or attempted sale or transfer of the Products or Project; and (d) pursuant to the terms and conditions of the LTSA, Company shall have a right of re-purchase upon termination of the LTSA for any reason.

(b) Customer Agreement.

a. Responsibility. Any Customer Agreement consummated with respect to a Project shall be by and between Distributor and Customer, and Company shall have no obligation or liability thereunder. As between Distributor and Customer, Distributor shall be responsible for the performance of all obligations thereunder, including obligations with respect to development, permitting, engineering, procurement, and construction. Distributor shall not subcontract any obligation under the Customer Agreement or this Agreement unless such subcontractor is a Permitted Subcontractor; provided, however, that any and all Major Subcontracts shall be subject to Company's prior written consent. Distributor shall be solely responsible for the engagement, management and payment of its subcontractors, and shall be solely responsible for the acts, omissions or defaults of its subcontractors and their agents, representatives and employees.

b. Terms and Conditions. In the event that Customer of a Project imposes unfavorable terms and conditions in its Customer Agreement that conflicts with or deviates from this Agreement, both Parties shall use best efforts to negotiate with Customer the terms and conditions of the Customer Agreement as the equal level with this Agreement.

c. EPC Contractor. Distributor may serve as EPC Contractor for any Project. Distributor shall obtain Company's prior written consent regarding any third party chosen to serve as the EPC Contractor for a Project and the terms of such relationship. If such consent is granted, then the Parties may execute a Purchase Order for such Project. All activities of any EPC Contractor (including without limitation Distributor) shall be subject to the intellectual property provisions set forth in Section 3(a), and Company (and not Distributor or any third party) shall perform all activities which require opening a Bloom Energy Server, including without limitation in connection with the commissioning of each Project. For the avoidance of doubt, EPC Contractor pricing shall be taken into consideration by Distributor when Distributor determines whether to exercise a ROFR, and the pricing set forth in Section 5 shall not be subject to change arising out of costs and expenses related to the EPC Contractor of a Project.

d. Buy-Down LDs. Liquidated damages commonly referred to as "buy-down liquidated damages" and assessed prospectively for future performance of a Project based upon performance during commercial operation of such Project (e.g. one (1) year or two (2) years of commercial operation), do not form part of Company's offer for any Project. If buy-down liquidated damages are required by the rules of procurement for any project (e.g. the rules of a request for proposals), then the Parties may, by mutual written agreement, decide in writing to pursue such Project upon terms and conditions with respect to such buy-down liquidated damages which are mutually acceptable to the Parties; provided, that neither Party shall be under any obligation to enter into any such agreement.

e. Performance Bond. If a Customer Agreement requires Distributor to post a "performance bond" or equivalent financial security to secure performance of the Delivery of the Products and the passage of the Commissioning Test (a "Performance Bond"), the Parties shall set forth in the applicable Purchase Order the requirements of such financial security, and the Parties' respective responsibility therefor; provided, that in no event shall Company's responsibility for posting a Performance Bond exceed the lesser of (a) the pro-rata percentage of the contract price under such Customer Agreement attributable to the supply of the Products; and (b) one hundred percent (100%) of the Product Price of such Products as set forth in the Purchase Order therefor. The contractual liability of Company for failure to timely Deliver the Products or for the Products to pass the Commissioning Test, together with the draw conditions for a Performance Bond posted by Company, shall be set forth in the Purchase Order. The Parties shall make best efforts to negotiate in the Customer Agreement to minimize exposure related to such liabilities.

(c) LTSA.

a. LTSA Negotiation. Company shall be solely authorized and responsible for all marketing (including bid materials), negotiation, and execution of any LTSA for any Project that is, or is proposed to be, subject to a Customer Agreement. Distributor may not, without Company's prior written consent, make any representation on Customer's behalf with respect to any LTSA, including without limitation representation regarding pricing, performance commitments, or limitations of liability. Distributor shall have the opportunity to participate in LTSA negotiations with Company and Customer for any LTSA that is subject to the Distributor Excess Performance LD Commitment. Distributor shall not have liability pursuant to any LTSA, except as set forth in an Excess Performance LD Agreement.

b. Company Performance Liquidated Damages. Notwithstanding anything to the contrary in this Agreement, Company's total liability for performance liquidated damages for any Project, for the term of the LTSA of such Project, shall in no event exceed (a) during the first ten (10) years of commercial operation, [...***...] of the pre-tax Bloom Energy Server equipment sale price from Company to Distributor; and (b) for [...***...], [...***...] of the pre-tax Bloom Energy Server equipment sale price from Company to Distributor (the foregoing, collectively, the "Company Performance LD Cap").

(d) [...***...].

a. **[...***...].**

b. **[...***...]**.

c. **[...***...]**.

4. Commissioning and Pre-Commissioning Completion Warranty.

(a) Commissioning. Company shall perform the Commissioning Test at the earliest practicable date after the Products are mechanically complete as a complete Project (or, if such Project is in phases, a complete phase of such Project), and have all governmental authorizations and third party consents required to bring such Project (or phase thereof, as applicable) to operational power levels and perform the Commissioning Test. Upon passage of the Commissioning Test, Company shall deliver to Distributor a notice of commissioning completion, substantially in the form set forth in Exhibit D ("Notice of Commissioning Completion" and the date of commencement of operations set forth therein, the "Commissioning Completion Date"). If the Products fails to pass the Commissioning Test, Distributor may submit a claim under the Pre-Commissioning Completion Warranty to Company for verification pursuant to Section 4(b).

(b) Pre-Commissioning Completion Warranty.

a. Pre-Commissioning Completion Warranty. Subject to Section 4(b)(iii), Company warrants to Distributor, that, during the period commencing upon Delivery and continuing until the achievement of Commissioning of the Products for a Project ("Pre-Commissioning Completion Warranty Period"), such Products shall be free from physical defects in design, materials and workmanship that prevent such Products from achieving Commissioning Completion (the "Pre-Commissioning Completion Warranty"). The Pre-Commissioning

Completion Warranty is not transferable to any third person, including a Customer, without Company's prior written consent.

b. Warranty Correction. If Products fail to satisfy the Pre-Commissioning Completion Warranty during the Pre-Commissioning Completion Warranty Period, Distributor shall make a written warranty claim to Company and Company shall verify whether such warranty claim is valid. Company shall either repair or replace (as determined by Company) the applicable Products (a "Warranty Correction") and re-perform the Commissioning Test within times acceptable to Customer; provided, that if Company has commenced and thereafter diligently pursued such Warranty Correction, but the nature of the specific remedy cannot be performed at the time requested by Customer, then such period shall conform to terms and conditions under the Purchase Order. Company may, as it deems necessary or appropriate, re-perform a Warranty Correction within such period (as may be extended pursuant to the foregoing sentence). Upon completion of the Warranty Correction, Company shall notify Distributor in writing, and Commissioning Test shall be re-performed. Breach of the Pre-Commissioning Completion Warranty shall not be extended to the Pre-Commissioning Completion Warranty Period after the achievement of Commissioning Completion. If Company fails to provide a Warranty Correction within the time required by the Customer Agreement, and as a result Customer rejects the Products, then Company shall pay to Distributor, as Distributor's sole and exclusive remedy, the Refund Amount. The "Refund Amount" is amount equal to (a) amounts refunded from Distributor to Customer pursuant to such Customer Agreement caused by such rejection; plus (b) direct third party costs and expenses incurred by Distributor to restore such Site in satisfaction of the terms and conditions of such Customer Agreement (including amounts in connection with disassembling works constructed at the Site); provided, however, that in no event shall Company's liability for a Refund Amount exceed the sum of (X) the aggregate Product Price of such Products, plus (Y) the costs incurred by Distributor to install such Products (without Distributor markup or margin), plus (Z) the direct third party costs incurred by Distributor to restore such Site (without Distributor markup or margin) (such sum, the "Refund Cap").

c. Exclusions. The Pre-Commissioning Completion Warranty shall not cover any obligations on the part of Company to the extent caused by or arising from (a) the Products affected by loss, vandalism, or other third-party actions or omissions after Delivery; (b) any failure relating to failure of natural gas supply to conform to the required specifications; (c) removal of any safety device by any person other than Company, (d) accidents, abuse, improper third party testing, (e) Force Majeure Events, or (f) commissioning, operation, repair, opening or accessing, or modification of the Products by anyone other than Company or Company's authorized agents.

(c) Technical Advisor. During the period of construction, Company shall make reasonably available an employee of Company or its affiliates during business hours (telephonically, via email, or at the Site, as may be mutually agreed and coordinated) to serve as technical advisor regarding Company technology (a "Technical Advisor"). Such Technical Advisor shall provide interpretive advice to Distributor regarding the technical specifications, installation manual, and other Product-specific information. Such advice shall exclude any supervision, management, or evaluation of Distributor's or its contractors' personnel, agents or subcontractors and work relating thereto, and any responsibility for planning, scheduling or management of Distributor's work (including in connection with development or permitting).

5. Post-COD Warranty Matters. The Parties expect that, following Commissioning Completion of the Products (a) the Products shall not be within the scope of Distributor's warranty to a Customer, as set forth in the Customer Agreement; and (b) Company's performance commitments and financial responsibility under the LTSA do not include responsibility for damaged, defective, or otherwise underperforming Ancillary Equipment. If the foregoing expectation is not fulfilled in any Customer Agreement or LTSA, the Purchase Order for such Products shall reflect the Parties' respective responsibility to the other Party, if any, for the damaged, defective, or otherwise underperforming Products or Ancillary Equipment.

6. Prices and Payment.

(a) Product Pricing. Pricing applicable to Products subject to this Agreement (the "Product Price") shall be as follows:

a. Bloom Energy Server: [...***...].

b. Company-Required Ancillary Equipment: [...***...].

(b) Invoicing. Company shall invoice Distributor the Product Price applicable to the Products set forth in a Purchase Order as follows:

c. Deposit: [...***...], invoiced upon receipt of a Purchase Order.

d. Delivery: [...***...], invoiced upon Delivery of such Products.

(c) Payment. Except as expressly provided in this Agreement, payment obligations are non-cancellable, and payments made hereunder shall be irrevocable and non-refundable. Distributor shall pay all invoices by no later than the Invoice Due Date. If Distributor fails to make any payment when due, Company may, at its option and without prejudice to its other remedies, suspend performance, defer delivery or seek remedies available at law or in equity without liability to Company.

(d) Taxes. Taxes, duties or excises are not included in the fees charged for the Product, except as may be set forth in the Incoterm applicable to the shipment of such Product, as set forth in Section 7(d)(ii)(1). If Company pays any taxes, duties or excises which are not included in the fees charged for the Product, Company shall itemize such taxes, duties or excises as a separate item on its invoices to Distributor, and Distributor shall reimburse Company for such taxes, duties or excises; provided, that Distributor shall not be required to make any such reimbursement if it provides a valid tax exemption certificate to Company prior to Delivery of such Product.

(e) Late Payments. Interest shall accrue daily on amounts which are not paid by the Party owing such amount when due pursuant to this Agreement at a rate equal to the lesser of [...***...] or the highest rate permitted by Applicable Law (if less than [...***...]). In the event that any payment to Company due hereunder is overdue, Company reserves the right to suspend performance until such delinquency is corrected.

7. Supply of Products.

(a) Forecasts. During the Term, Distributor shall provide Company with a good faith rolling twelve (12) month forecast, updated quarterly, for units of the Products (in kW) to be sold by Distributor hereunder during each month in such twelve (12) month period.

(b) Purchase Orders. Distributor shall initiate purchases under this Agreement by submitting written purchase orders to Company substantially in the form set forth as Exhibit C (each, a "Purchase Order"). Purchase Orders shall state unit quantities, unit descriptions, requested delivery dates, shipping instructions, and other matters, which shall in each case be subject to the Parties' mutual agreement. Neither Party shall be obligated to execute a Purchase Order, and no Purchase Order shall be binding upon either Party until signed by each of Distributor and Company. Once executed by both Parties, Purchase Orders shall be non-cancelable for any reason other than due to a Force Majeure event that causes the cancellation of such Project or in Distributor's participation in such Project.

(c) Packing. All Products shipped by Company to Distributor under this Agreement shall be packaged in accordance with instructions set forth in the applicable Purchase Order.

(d) Title; Risk of Loss; Acceptance; and Shipment.

a. Title, Risk of Loss, and Acceptance.

(1) Delivery. Title, risk of loss, and acceptance of the Products shall pass from Company to Distributor upon Delivery. "Delivery" shall mean delivery at the named port of unlading in the Republic of Korea, prior to unloading.

(2) Risk of Loss. For the avoidance of doubt, in the event of a conflict between Section 7(d)(i)(1) and the Incoterm specified in Section 7(d)(ii)(1) with respect to risk of loss, the risk of loss specified in Section 7(d)(i)(1) shall control over the Incoterm and shall govern the Parties' respective liabilities. As between Company and Distributor, the insurance of Distributor shall be responsible for insurable losses occurring on or after passage of risk of loss from Company to Distributor pursuant to Section 7(d)(i)(1).

b. Shipment Terms.

(1) All Products shall be shipped [...***...] (Incoterms 2010) to named port of unlading the Republic of Korea.

(2) Company shall pay for the cost of shipping up to the port of unlading in the Republic of Korea, and Distributor shall be the importer of record and shall responsible for all costs of import, including customs clearance, destination fees, duties, taxes, on-carrier fees, and other charges at and from the port of entry in the Republic of Korea. Regarding marine insurance, where Company ships CFR, Distributor shall pay the costs of insurance during shipment, and where Company ships DAT, Company shall pay the costs of insurance during shipment.

(e) Product Updates. Company shall have the right to make design modifications to Products from time to time and in its sole discretion, at any time prior to the execution of a

Purchase Order for such Product. Following execution of a Purchase Order for a Product, Company shall not, without the prior written consent of Distributor, make design modifications to the Products set forth in such Purchase Order that represent a material change to such Products' form, fit, or function.

8. Marketing and Administration.

(a) Independent Contractor. Distributor is an independent contractor, not an employee, agent, or representative of Company. Distributor is not authorized to, and will not attempt to, create or assume any obligation or liability, express or implied, in the name of or otherwise on behalf of Company. Without limiting the generality of the foregoing, Distributor will not enter into any contract, agreement or other commitment, make any warranty or guaranty, or incur any obligation or liability in the name or otherwise on behalf of Company. This Agreement will not be interpreted or construed as creating or evidencing any agency, franchise, association, joint venture or partnership among the Parties.

(b) Marketing. Distributor shall market, promote, and distribute the Products in the Territory as Company's "preferred partner" in the Territory and as otherwise mutually agreed by the Parties. These efforts may include without limitation the use of mailings, advertising, seminars, and other customary marketing techniques. Company will provide support to Distributor for Market development activities, and may choose to engage in marketing activities.

(c) Feedback. Distributor shall provide Company with prompt written notification of any comments or complaints about the Products that are made by Customers, and of any problems with the Products or their use that Distributor becomes aware of. Such written notification shall be the property of Company, and shall be considered to be part of Company's Confidential Information.

(d) Audit. Company shall have the right to inspect and audit Distributor's marketing, use, deployment, and exploitation of the Products for compliance with the terms and conditions of this Agreement.

(e) Force Majeure. Neither Party shall be liable under any circumstance, nor be deemed to be in breach of this Agreement, for any delay or failure in performance or interruption of service resulting from Force Majeure. In the case of a delay due to an event of Force Majeure, affected deadlines shall be extended by a period of time equal to the time lost due to Force Majeure.

9. Ownership.

(a) Proprietary Rights. Company or its Suppliers own all right, title and interest (including without limitation all intellectual property rights), in and to the Products and any modifications or improvements thereto, whether or not made by Company. Distributor acknowledges that the licenses granted under this Agreement do not provide Distributor with title to or ownership of any intellectual property rights contained in or related to the Products, but only a right of limited use under the terms and conditions of this Agreement. Except as expressly set forth in Section 3 and this Section 9, Company reserves all rights and grants Distributor no licenses of any kind hereunder. Distributor hereby assigns to Company all information, including but not limited to feedback or suggestions, provided to Company with respect to the Products, and such information shall be deemed Confidential Information.

(b) License Grant. Subject to the terms and conditions of this Agreement, Company grants to Distributor a limited, non-exclusive, non-transferable, royalty-free license to market, sell and offer to sell the Products to Customers within the Market during the Term, including use of all Licensed Material for such purpose (the "Limited License").

(c) Restrictions. The Limited License does not include any rights to, and Distributor shall not (and shall not permit any Customer to) conduct any of the following activities (such activities, the "Prohibited Activities"):

a. Disassemble, decompile or "unlock", translate, decode or otherwise reverse engineer, or attempt in any manner to reconstruct or discover, any part of the Products or other Licensed Materials;

b. Modify, adapt, enhance, or create a derivative work of the Products or other Licensed Materials. Only Company shall have the right to modify, adapt, enhance or create a derivative work of the Products or any other Licensed Material;

c. Use the Licensed Materials to develop or manufacture a product that is similar to Products or other Licensed Materials;

d. Open the covering, access the interior, or give others the opportunity to open the covering or access the interior, of any Products. Only Company and its authorized representatives may open or access such interior;

e. Copy or remove any proprietary notices, labels, or marks on Licensed Materials without Company's prior written consent;

f. Except as expressly permitted by this Agreement, assign, sublicense, distribute, rent, lease, loan, sell, transfer, network, publish, make available, or permit any third party access to the Products or other Licensed Materials;

g. Develop intellectual property, or help any third party develop intellectual property, which could be asserted against Company's intellectual property in the Products or other Licensed Materials;

h. File any action (or directly or indirectly support or be involved in any such action) in any court or agency which in any way attack the validity, enforceability, ownership, or protectability of any intellectual property of Company (including trade secrets), Confidential Information of Company, or other proprietary Company information; or

i. Cause or permit any third party to do any of the foregoing.

(d) Software. Distributor acknowledges that the Software may contain or be provided with copyrighted software of Company's Suppliers as identified in associated documentation or other printed materials ("Third Party Software") which is obtained under a license from such Suppliers. All third party licensors and Suppliers retain all right, title and interest in and to such Third Party Software and all copies thereof, including all copyright and other intellectual property rights.

Distributor's use and distribution of any Third Party Software shall be subject to and Distributor shall comply and cause all Customers to comply with the applicable restrictions and other terms and conditions set forth (i) in this Agreement or the Documentation applicable to the Software and (ii) in such Third Party Software documentation or printed materials.

(e) Proprietary Notices. Distributor will ensure that all copies of the Products will incorporate copyright and other proprietary notices in the same manner that Company incorporates such notices in the Products or in any manner reasonably requested by Company. Distributor will not remove any copyright or other proprietary notices incorporated on or in the Products by Company.

(f) Use of Trademarks. During the term of this Agreement, Distributor may advertise the Products under the trademarks, marks, and trade names that Company may provide from time to time (the "Company Trademarks"). Distributor understands that Company has applied for applicable federal and state registration of certain of its trademarks and agrees, upon Company's request, to so indicate on the Products and in any advertisement, promotional materials or other documents that contain the Products' names. Nothing herein will grant to Distributor any right, title or interest in Company Trademarks. At no time during or after the term of this Agreement will Distributor challenge or assist others to challenge Company Trademarks or the registration thereof or attempt to register any trademarks, marks or trade names confusingly similar to those of Company. Distributor will follow reasonable trademark usage guidelines communicated by Company, will provide examples of its usage of Company Trademarks upon request by Company, and will promptly correct any deviations from such guidelines upon notification by Company of such deviations.

(g) Use of Trade Names. Distributor will present and promote the sale of the Products fairly. Distributor may represent itself as an authorized Distributor of Company and use Company's product names in Distributor's advertising and promotional media provided (i) that Distributor conspicuously indicates in all such media that such names are trademarks of Company and (ii) that Distributor submits all such media to Company for prior approval and satisfies the requirements set forth in paragraph (c) above. Upon termination of this Agreement for any reason, Distributor will immediately cease all use of the Products' names and Company Trademarks and, at Distributor's election, destroy or deliver to Company all materials in Distributor's control or possession which bear such names and trademarks, including any sales literature. Distributor will not challenge any intellectual property rights claimed by Company in such trademarks.

(h) Use of Marketing Materials. Company may provide Distributor with marketing materials, such as marketing literature, Company logos, and/or artwork, as Company may determine in its sole discretion (the "Marketing Materials"). Company hereby grants Distributor permission to use, reproduce, translate, and distribute the Marketing Materials solely in connection with Distributor's distribution of Products hereunder. Distributor hereby assigns to Company all intellectual property rights in any and all translations of the Marketing Materials. Upon termination of this Agreement for any reason, Distributor will immediately cease all use of the Marketing Materials and, at Distributor's election, destroy or deliver to Company all Marketing Materials in Distributor's control or possession.

10. Confidentiality.

(a) Confidential Information. During the period this Agreement is in effect and for ten (10) years thereafter, the Parties shall hold Confidential Information of the other Party in confidence and use the same degree of care, but in no event less than reasonable care, to avoid disclosure of Confidential Information as it uses with respect to its own confidential and proprietary information of similar type and importance. The receiving Party agrees to disclose Confidential Information only to its employees or other agents who have a bona fide need to know solely to perform its obligations or exercise its rights hereunder, who will each agree to comply with this section. The receiving Party shall not sell, license, sublicense, publish, display, distribute, disclose or otherwise make available the Confidential Information to any third party nor use such information except as authorized by this Agreement. The receiving Party shall immediately notify the disclosing Party of the unauthorized disclosure or use of the Products or Confidential Information and to assist Company in remedying such unauthorized use or disclosure. It is further understood and agreed that any breach of this Section 10 or Section 9(c) is a material breach of this Agreement and any such breach would cause irreparable harm to the disclosing Party, entitling the disclosing Party to injunctive relief in addition to all other remedies available at equity or law. Notwithstanding the above, non-public information contained in an RFP and the prices hereunder shall be Confidential Information of both Parties.

(b) Exceptions. Notwithstanding the above, receiving Party shall be under no obligation not to disclose any information that it can prove: (i) was in the public domain at the time it was disclosed or has entered the public domain through no fault of the receiving Party; (ii) was known to the receiving Party, without restriction, at the time of disclosure, as demonstrated by files in existence at the time of disclosure; (iii) is disclosed with the prior written approval of the disclosing Party; (v) becomes known to receiving Party, without restriction, from a source other than the disclosing Party without breach of this Agreement by receiving Party; or (vi) is disclosed pursuant to the order or requirement of a court, administrative agency, other governmental body, or the requirements of a public stock exchange; provided, however, that receiving Party shall provide prompt notice thereof to disclosing Party to enable disclosing Party to seek a protective order or otherwise prevent or restrict such disclosure.

11. Indemnification.

(a) Intellectual Property Indemnification.

a. Company shall indemnify, defend and hold Distributor harmless against any third party action (including a Customer) alleging that the Products infringe any valid U.S. patent or copyright, and Company shall pay all settlements entered into, and all final judgments and costs (including reasonable attorneys' fees) awarded against Distributor in connection with such action, provided Distributor (i) notifies Company promptly in writing of any such action, (ii) gives Company exclusive control and authority over the defense or settlement of such action, (iii) does not enter into any settlement or compromise of any such action without the prior written consent of Company and (iv) provides all reasonable assistance to Company at the request and expense of Company. If any Licensed Material becomes, or in the opinion of Company may become, the subject of an infringement claim, Company may, at its option, (i) procure for Distributor the right to continue using such Licensed Material, (ii) modify or replace such Licensed Material with substantially equivalent non-infringing products, or (iii) require the return of such Licensed Material and refund to Distributor a pro-rata portion of the Product Price of such Licensed Material on a depreciated basis, without depreciation for the first year after achievement of Commissioning, and thereafter on a straight line amortization of the Product Price equal to the term of the LTSA (e.g. nineteen year amortization for a twenty-year LTSA); with the provision of remedies pursuant to this Section 11(a)(i) being the sole and exclusive remedies for an infringement claim subject to this Section 11(a).

b. Company shall have no indemnification obligations with respect to any third party action alleging that (i) the use of any Products, or any part of them, in combination with products or technology not supplied by Company, or (ii) any service or other process utilizing any Products, infringes any third party intellectual property right, and in such event Distributor will indemnify, defend and hold harmless Company, and its officers, directors and employees, against any such action, and Distributor will pay all settlements entered into, and all final judgments and costs (including reasonable attorneys' fees) awarded against such party in connection with such action, provided Company (i) notifies Distributor promptly in writing of any such action, (ii) gives Distributor exclusive control and authority over the defense or settlement of such action, (iii) does not enter into any settlement or compromise of any such action without Distributor's prior written consent and (iv) provides all reasonable assistance to Distributor at the request and expense of Distributor.

(b) Mutual Indemnification. Except as otherwise set forth in this Agreement, each Party (such Party providing indemnification, the "Indemnifying Party") shall indemnify, defend and hold harmless the other Party and its affiliates, and each of their respective directors, officers, members, shareholders, employees and contractors (collectively, the "Indemnified Parties"), from and against all third party (not including affiliates, third party beneficiaries, or persons with an equity or security interest the Indemnified Party or its assets) claims, demands, actions, causes of action, and proceedings ("Claims") for injury or death of any person or loss or damage to property, in each case to the extent caused by the Indemnifying Party's gross negligence or willful misconduct; provided, that the Indemnified Party shall provide the Indemnifying Party prompt notice of any such Claim, authorize the Indemnifying Party to settle or defend such Claim, provide the Indemnifying Party control of the defense of such Claim, and assist such defense (at the Indemnifying Party's reasonable expense) upon request of the Indemnifying Party. Notwithstanding the foregoing, an Indemnifying Party shall not be required to indemnify, defend or hold harmless for any Claim arising out of the negligence, willful misconduct or breach of this Agreement by the Indemnified Party. The provision of remedies pursuant to this Section 11(b) are the sole and exclusive remedies for an indemnification claim subject to this Section 11(b).

12. Limited Warranties. EXCEPT AS EXPRESSLY PROVIDED PURSUANT TO THE PRE-COMMISSIONING COMPLETION WARRANTY SET FORTH IN SECTION 4(b) AND SECTION 5 HEREIN, THE PRODUCTS ARE PROVIDED "AS IS", AND COMPANY AND ITS SUPPLIERS MAKE NO WARRANTY, EXPRESS, IMPLIED, STATUTORY OR OTHERWISE, WITH RESPECT TO PRODUCTS OR ANY PART THEREOF, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF TITLE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT, OR THOSE ARISING FROM COURSE OF PERFORMANCE, DEALING, USAGE OR TRADE. WITHOUT LIMITING THE GENERALITY OF THE FOREGOING, NEITHER COMPANY NOR ANY OF ITS SUPPLIERS WARRANT THAT THE PRODUCTS OR ANY PART THEREOF WILL

MEET DISTRIBUTOR'S REQUIREMENTS OR BE UNINTERRUPTED, OR ERROR-FREE, OR THAT ANY ERRORS IN THE PRODUCTS WILL BE CORRECTED.

13. Term and Termination.

(a) The term of this Agreement shall commence on the Effective Date and terminate on December 31st, 2021 (the "Initial Term"). Thereafter, this Agreement shall be renewed automatically for three (3) year renewal terms (each a "Renewal Term"), unless not extended by either Party pursuant to the following sentence (the Initial Term and any Renewal Term, together, the "Term"). Commencing six (6) months prior to the expiration of the Initial Term or any Renewal Term, the Parties shall discuss whether to extend the Term for the immediately succeeding Renewal Term, upon mutually-agreed terms; provided, that if the cumulative target established pursuant to Section 2(e) for the concluding Initial Term or Renewal Term (as applicable) has been satisfied, neither Party may prevent the Term for extending for the immediately succeeding Renewal Term. During each such six (6) month period, neither Party may terminate this Agreement. Subject to the foregoing, if the cumulative target for the concluding year has not been satisfied, then upon the conclusion of such six (6) month period, either Party may, without liability, terminate the Agreement by written notice to the other Party, with such termination to become effective upon the expiration of such calendar year (without renewal).

(b) Termination for Cause. Except as set forth in the last sentence of this Section 13(b), if either Party defaults in the performance of any material provision of this Agreement, then the non-defaulting Party may give written notice to the defaulting Party that if the default is not cured within thirty (30) days the Agreement will be terminated. If the non-defaulting Party gives such notice and the default is not cured during the thirty-day period, then the Agreement shall automatically terminate at the end of that period. Notwithstanding the foregoing, if Distributor breaches the provisions of Section 9 hereof, then the Company shall be entitled to terminate this Agreement effective immediately upon delivery of written notice to Distributor.

(c) Termination for Insolvency and Related Events. This Agreement shall terminate, without notice, (i) upon the institution by or against either Party of insolvency, receivership or bankruptcy proceedings or any other proceedings for the settlement of such Party's debts, (ii) upon either Party's making an assignment for the benefit of creditors, or (iii) upon either Party's dissolution or ceasing to do business.

(d) Effect of Termination. Purchase orders and services contracted during the Term shall survive the expiration or earlier termination of the Agreement. Subject to the foregoing, if this Agreement is terminated, then all of Distributor's rights and licenses with respect to the Products shall terminate, provided that each Customer license granted in accordance with this Agreement shall survive in accordance with its terms, subject to termination for default in accordance with its terms. Upon termination, Distributor must destroy all any and all promotional literature, price quotations, order forms, data, information and other items received by Distributor from Company in connection with this Agreement.

(e) Limitation of Liability. In the event of termination by either Party in accordance with any of the provisions of this Agreement, neither Party shall be liable to the other, because of such termination, for compensation, reimbursement or damages on account of the loss of prospective profits or anticipated sales or on account of expenditures, inventory, investments, leases or commitments in connection with the business or goodwill of either Party. Termination shall not, however, relieve either Party of any obligations incurred prior to the termination, including, without limitation, i) the obligation of Distributor to pay Company for Products purchased prior to such termination or ii) the obligation of Company to provide purchased Products to Distributor.

(f) Survival of Certain Terms. The provisions of Sections 1 and Sections 9-13, and Section 17-18 of this Agreement, and all payment obligations incurred during the term of this Agreement, shall survive the expiration or termination of this Agreement for any reason. All other rights and obligations of the parties shall cease upon termination of this Agreement.

14. Import and Export Requirements. Distributor shall, at its own expense, pay all import and export licenses and permits, customs charges and duty fees, if any, and shall take all other actions, if any, required to accomplish the export and import of the Products purchased by Distributor. The Products are specifically subject to U.S. Export Administration Regulations. Distributor agrees to strictly comply with all export, re-export and import restrictions and regulations of the Department of Commerce or other agency or authority of the United States or the Territory or other applicable countries, and not to transfer, or authorize the transfer of, directly or indirectly, the Products or any direct product thereof to a prohibited country or otherwise in violation of any such restrictions or regulations. Distributor agrees to ensure that the Products provided hereunder are only installed in the Territory. Distributor's failure to comply with this Section is a material breach of this Agreement.

15. Compliance with Laws; Business Practices.

(a) Each Party shall comply with, and ensure that its contractors and employees comply with, all laws and regulations of the United States and all other jurisdictions in which such Party carries out activities under or related to this Agreement, including laws prohibiting bribery and other unethical business practices. Without limitation, the Parties' performance of this Agreement shall comply with including, but not limited to the Foreign Corrupt Practices Act of 1977 of the United States and, as applicable, the Improper Solicitation and Graft Act (Kim Young Ran Act), and, all other applicable anti-corruption legal requirements and with all applicable embargo and other economic sanctions legal requirements.

(b) Notwithstanding any provisions herein to the contrary, each Party shall indemnify, defend and hold harmless the other Party and its officers, directors, Affiliates, employees and representatives from and against any claim, loss, damages, liability, expense or cost of whatever nature, including reasonable attorneys' fees and costs, arising out of or related to such Party's or its employee's or agent's failure to comply with applicable law as provided in this Section 15(a). The obligation of each Party under this Section 15 shall survive the termination or expiration of this Agreement. Any breach or threatened breach of Section 15(a) by a Party shall give the other Party the immediate right to terminate this Agreement.

16. Export Compliance. Distributor shall not export, re-export, resell, ship or divert directly or indirectly any portion of the Products or other technical information supplied hereunder in any form, including without limitation any technical data furnished hereunder, to any country except as the laws of the United States of America expressly permit, or for which an export license or other governmental approval is required, without first obtaining such license or approval. This obligation shall survive any termination of this Agreement.

17. Limitation of Liability.

(a) Neither Company nor Distributor shall be liable to the other by reason of LOSS OF PROFITS, OR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE OR INDIRECT DAMAGES (OR DIRECT DAMAGES IN THE CASE OF THE SUPPLIERS) ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, TORT (INCLUDING WITHOUT LIMITATION NEGLIGENCE), STRICT LIABILITY OR OTHERWISE ARISING OUT OF OR UNDER THIS AGREEMENT OR ANY USE OR INABILITY TO USE THE PRODUCTS OR EQUIPMENT, OR FOR BREACH OF THIS AGREEMENT. Each Parties' TOTAL LIABILITY ARISING OUT OF OR UNDER THIS AGREEMENT, OR FOR BREACH OF THIS AGREEMENT, WHETHER IN CONTRACT, TORT (INCLUDING WITHOUT LIMITATION NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED FOR ANY PURCHASE ORDER THE CONTRACT AMOUNT PURSUANT TO SUCH PURCHASE ORDER; PROVIDED, HOWEVER, THAT NOTWITHSTANDING THE FOREGOING, COMPANY'S LIABILITY FOR PAYMENT OF A REFUND AMOUNT PURSUANT TO SECTION 4(b)(ii) SHALL NOT BE SUBJECT TO SUCH LIMITATION, BUT IN NO EVENT SHALL COMPANY'S LIABILITY FOR PAYMENT OF A REFUND AMOUNT EXCEED THE APPLICABLE REFUND CAP.

(b) Notwithstanding the limitations of liability set forth in Section 17(a), such limitations of liability shall not apply to or limit in anyway any liability of Distributor or Company (i) arising from fraud or willful misconduct or gross negligence of such Party; or (ii) in respect of any obligation of such Party to indemnify for third party claims pursuant to Section 11 (including without limitation in respect of costs and expense incurred by the indemnified Party in respect of such third party claim)

18. General.

(a) Governing Law. This Agreement is governed and interpreted in accordance with the laws of the State of California and the United States of America without reference to conflicts of laws principles and excluding the United Nations Convention on Contracts for the Sale of Goods.

(b) Dispute Resolution.

j. All controversies, claims, disputes or difference in connection with this Agreement shall be finally settled by arbitration administered by the Korean Commercial Arbitration Board ("KCAB") in accordance with the International Arbitration Rules of the KCAB. The venue of arbitration proceedings and seat of arbitration shall be Seoul, the Republic of Korea.

k. The number of arbitrators shall be three, with Company and Distributor nominating one arbitrator each and the two arbitrators shall jointly nominate the third arbitrator.

(c) Assignment. Distributor shall not transfer, assign or delegate this Agreement or any rights or obligations hereunder, whether voluntarily, by operation of law or otherwise, without the prior written consent of Company. Subject to the foregoing, the terms and conditions of this Agreement shall be binding upon and inure to the benefit of the parties to it and their respective heirs, successors, assigns and legal representatives.

(d) Merger, Modification and Waiver. This Agreement constitutes the entire agreement between Company and Distributor with respect to the subject matter hereof, and merges all prior negotiations and drafts of the parties with regard thereto. No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, by Company shall be effective unless in writing. If there is any conflict between the terms and conditions of this Agreement and the terms and conditions of any Purchase Order or other document, the terms and conditions of this Agreement shall prevail; provided, that if a specific provision of a Purchase Order expressly states that it prevails in the event of conflict with the terms and conditions of this Agreement, then such specific provision of such Purchase Order shall prevail. The waiver of one breach or default or any delay in exercising any rights shall not constitute a waiver of any subsequent breach or default.

(e) Severability. If any of the provisions of this Agreement is held by a court of competent jurisdiction to be invalid or unenforceable under any applicable statute or rule of law, it shall be replaced with the valid provision that most closely reflects the intent of the parties and the remaining provisions shall continue in full force and effect.

(f) Notices. All notices permitted or required under this Agreement shall be in writing and shall be delivered in person; by courier, overnight delivery, or confirmed fax; or mailed by first class, registered or certified mail, postage prepaid, to the address of the Party specified in this Agreement or such address as either Party may specify in writing. Such notice shall be deemed to have been given upon receipt.

Company	**Distributor**
Bloom Energy Corporation	SK D&D Co., Ltd.
4353 North 1st Street	332, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea
San Jose, California 95134	
Attn: General Counsel	Attn: Risk Management Team

(g) Counterparts. This Agreement may be executed in any number of separate counterparts and delivered by electronic means (including in Portable Document Format (.PDF) and digital signature formats such as DocuSign), each of which shall be deemed an original and all of which together shall constitute one instrument.

(h) Advice of Legal Counsel. Each Party acknowledges and represents that, in executing this Agreement, it has had the opportunity to seek advice as to its legal rights from legal counsel and that the person signing on its behalf has read and understood all of the terms and provisions of this Agreement. This Agreement shall not be construed against any Party by reason of the drafting or preparation thereof.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives.

<u>COMPANY</u>	**<u>distributor</u>**
BLOOM ENERGY CORPORATION	**SK D&D Co., LTd.**
By: /s/ KR Sridhar	By: /s/ Stefan Yoonsong Ham
Name: KR Sridhar	Name: Stefan Yoonsong Ham
Title: Chairman & CEO	Title: President & CEO
Date: January 30, 2019	Date: January 30, 2019

EXHIBIT A
to Preferred Distributor Agreement

COMPANY-REQUIRED ANCILLARY EQUIPMENT

1. Exhaust kit (only for stacked units)
2. Interface frame, stacked (only for stacked units)
3. Mechanical installation kit
4. Electrical installation kit
5. Plumbing installation kit
6. Telemetry cabinet
7. Water Distribution Module
8. Water Distribution Module installation kit
9. Cosmetic side panels
10. Cosmetic rear panels (if systems not installed back-to-back)
11. Forklift cover panels
12. Varmint protection kit
13. Signage kit
14. Installation alignment fixture

EXHIBIT B
to Preferred Distributor Agreement

PERMITTED SUBCONTRACTORS

EXHIBIT C
to Preferred Distributor Agreement

FORM OF PURCHASE ORDER

[To be agreed in writing by the Parties.]

[*Signatures Follow*]

IN WITNESS WHEREOF, the Parties have caused this Purchase Order to be executed by their duly authorized representatives.

PROPOSED:	**ACCEPTED:**
SK D&D Co., LTd.	**BLOOM ENERGY CORPORATION**
Signature: ______________________	Signature: ______________________
Name: ______________________	Name: ______________________
Title: ______________________	Title: ______________________
Date: ______________________	Date: ______________________

CERTAIN CONFIDENTIAL INFORMATION IN THIS EXHIBIT HAS BEEN OMITTED AND REPLACED WITH "[…*…]" BECAUSE IT IS NOT MATERIAL AND WOULD BE COMPETITIVELY HARMFUL IF PUBLICLY DISCLOSED.**

EXHIBIT D
to Preferred Distributor Agreement

FORM OF NOTICE OF COMMISSIONING COMPLETION

Installation Information and Notice of Acceptance

Customer: {Insert Contract Customer Name}

Customer Address: {Insert Site Address}
{Insert City, State, Zip}

Site Address: {Insert Site Name (Site ID)}
{Insert Site Address}
{Insert City, State, Zip}

Bloom Energy Sales Order Number: _____

Installation Information

Product	**Serial Number**	**Shipment Date**	**Installation Complete Date**	**Full Power Date**

Acceptance Details

By signing below, Bloom Energy represents that the Product in aggregate at the installation Site has passed the following Commissioning tests:

Test Name	Date	Status
Electrical Tie In Connection		Complete
Commissioning Complete		Complete
System Startup		Complete
Permission to Operate		Complete
Full Power Date		Complete

Bloom Energy Corporation

____

Signature

____

Name

____

Date

Exhibit 10.45

March 31, 2020

Randy Furr

Dear Randy,

Your last date of employment as an employee will be **March 31, 2020**.

You will assume the role of Consultant effective **April 1, 2020 through April 1, 2021**. During the period that you operate as a Consultant, you will not be eligible for a salary or benefits. As a Consultant, you will make yourself available as needed to provide support to the CEO, CFO and the Executive Team.

Your stock vesting will continue per the terms and conditions of the plans for one year through **April 1, 2020**. The remainder of your 2019 RSU grant will be accelerated subject to Compensation Committee approval.

The signatures below document the agreements outlined above.

Date: 3/31/2020

/s/ Sonja Wilkerson
Sonja Wilkerson
EVP, Chief People Officer

/s/ Randy Furr
Randy Furr
Exiting CFO

Exhibit 21.1

Bloom Energy Corporation

Subsidiaries*

Name of Subsidiary	Jurisdiction
Clean Technologies II, LLC	Delaware
Diamond State Generation Holdings, LLC	Delaware
2012 V PPA Holdco, LLC	Delaware
2012 ESA Project Company, LLC	Delaware
Clean Technologies 2013B, LLC	Delaware
2013B ESA Holdco, LLC	Delaware
2014 ESA HoldCo, LLC	Delaware
2014 ESA Project Company, LLC	Delaware
Clean Technologies 2015, LLC	Delaware
2015 ESA HoldCo, LLC	Delaware
2015 ESA Project Company, LLC	Delaware
BE Development, Inc.	Delaware

*Pursuant to Item 601(b)(21)(ii) of Regulation S-K, the names of other subsidiaries of Bloom Energy Corporation are omitted because, considered in the aggregate, they would not constitute a significant subsidiary as of the end of the year covered by this Annual Report on Form 10-K.

Exhibit 23.1

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-237538 and 333-226369) of Bloom Energy Corporation of our report dated March 31, 2020 relating to the financial statements, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP
San Jose, California
February 26, 2021

EXHIBIT 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-237538 and 333-226369 on Form S-8 of our report dated February 26, 2021, relating to the consolidated financial statements of Bloom Energy Corporation and the effectiveness of Bloom Energy Corporation’s internal control over financial reporting appearing in this Annual Report on Form 10-K of Bloom Energy Corporation for the year ended December 31, 2020.

/s/ Deloitte & Touche LLP

San Jose, CA
February 26, 2021

EXHIBIT 31.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER

PURSUANT TO RULE 13a-14(a) AND RULE 15d-14(a)

OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED,

AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, KR Sridhar, certify that:

1. I have reviewed this Annual Report on Form 10-K for the annual period ended December 31, 2020 of Bloom Energy Corporation;

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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

    a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter (the registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and

5. The registrant’s other certifying officer 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 26, 2021

By: /s/ KR Sridhar

KR Sridhar
President and Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

CERTIFICATIONS OF CHIEF FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) AND RULE 15d-14(a)
OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Gregory Cameron, certify that:

1. I have reviewed this Annual Report on Form 10-K for the annual period ended December 31, 2020 of Bloom Energy Corporation;

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 and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer 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 26, 2021	By:	/s/ Gregory Cameron
			Gregory Cameron
			Executive Vice President and Chief Financial Officer
			(Principal Financial Officer)

EXHIBIT 32.1

CERTIFICATIONS OF CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF
THE SARBANES-OXLEY ACT OF 2002

The following certifications are hereby made in connection with the Annual Report on Form 10-K for the annual period ended December 31, 2020 of Bloom Energy Corporation (the “Company”) as filed with the Securities and Exchange Commission on the date hereof (the “Report”):

I, KR Sridhar, President and Chief Executive Officer, hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	February 26, 2021	By:	/s/ KR Sridhar
			KR Sridhar
			President and Chief Executive Officer
			(Principal Executive Officer)

I, Gregory Cameron, Executive Vice President and Chief Financial Officer, hereby certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

1. The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date:	February 26, 2021	By:	/s/ Gregory Cameron
			Gregory Cameron
			Executive Vice President and Chief Financial Officer
			(Principal Financial Officer)