Second-Party Opinion

Bloom Energy Green Bond Framework

Evaluation Summary

Sustainalytics is of the opinion that the Bloom Energy Green Bond Framework is credible and impactful and aligns with the four core components of the Green Bond Principles 2018. This assessment is based on the following:

USE OF PROCEEDS The eligible categories for the use of proceeds - Renewable Energy, Energy Efficiency, Climate Change Adaptation, Sustainable Water and Wastewater Management, Pollution Prevention and Control, Green Buildings, Clean and Mass Transportation - are aligned with those recognized by the Green Bond Principles 2018. Sustainalytics considers that the eligible categories will lead to positive environmental impacts by supporting more environmentally friendly energy options and advance the UN Sustainable Development Goals, specifically SDGs 6,7,9,11,12 and 13.

PROJECT EVALUATION / SELECTION Bloom's Sustainability Team will be charged with project evaluation, with final approval jointly provided by the Treasurer and Head of Environmental and Social Governance. Sustainalytics considers the project selection process in line with market practice.

MANAGEMENT OF PROCEEDS Bloom has internal tracking systems in place to monitor proceeds. Pending allocation, funds will be temporarily held in liquid assets such as cash, equivalents and other securities in line with the Company's investment policy. This is in line with market practice.

REPORTING Bloom intends to report on allocation of proceeds on its website on an annual basis until full allocation on a project-portfolio basis. In addition, Bloom Energy Corporation is committed to reporting on relevant impact metrics. Sustainalytics views Bloom Energy Corporation's allocation and impact reporting as aligned with market practice.

Evaluation date	September 9, 2020
Issuer Location	San Jose, California, USA

Report Sections

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Introduction

Bloom Energy Corporation ("Bloom", or the "Company") manufactures and operates solid oxide fuel cell systems on-site for clients mainly in the state California. Headquartered in San Jose, California, Bloom is listed on the New York Stock Exchange and employs over 1,500 employees.

Bloom has developed the Bloom Energy Green Bond Framework (the "Framework") under which it intends to issue a green bond and use the proceeds to finance and/or refinance, in whole or in part, existing and/or future projects that will reduce the carbon footprint of the Company's operations, in addition to providing other environmental and resiliency benefits. The Framework defines eligibility criteria in seven areas:

1. Renewable Energy
2. Energy Efficiency
3. Climate Change Adaptation
4. Sustainable Water and Wastewater Management
5. Pollution Prevention and Control
6. Green Buildings
7. Clean and Mass Transportation

Bloom engaged Sustainalytics to review the Bloom Energy Green Bond Framework, dated September 2020, and provide a Second-Party Opinion on the Framework's environmental credentials and its alignment with the Green Bond Principles 2018 (GBP).[1] This Framework has been published in a separate document which can be found on Bloom's investor relations website www.investor.bloomenergy.com.[2]

Scope of work and limitations of Sustainalytics Second-Party Opinion

Sustainalytics' Second-Party Opinion reflects Sustainalytics independent[3] opinion on the alignment of the reviewed Framework with the current market standards and the extent to which the eligible categories are credible and impactful.

As part of the Second-Party Opinion, Sustainalytics assessed the following:

- The Framework's alignment with the Green Bond Principles 2018, as administered by ICMA;
- The credibility and anticipated positive impacts of the use of proceeds;
- The alignment of the issuer's sustainability strategy and performance and sustainability risk management in relation to the use of proceeds.

For the use of proceeds assessment, Sustainalytics relied on its internal taxonomy, version 1.5, which is informed by market practice and Sustainalytics' expertise as an ESG research provider.

As part of this engagement, Sustainalytics held conversations with various members of Bloom's management team to understand the sustainability impact of their business processes and planned use of proceeds, as well as management of proceeds and reporting aspects of the Framework. Bloom representatives have confirmed (1) they understand it is the sole responsibility of Bloom to ensure that the information provided is complete, accurate or up to date; (2) that they have provided Sustainalytics with all relevant information and (3) that any provided material information has been duly disclosed in a timely manner. Sustainalytics also reviewed relevant public documents and non-public information.

This document contains Sustainalytics' opinion of the Framework and should be read in conjunction with that Framework.

Any update of the present Second-Party Opinion will be conducted according to the agreed engagement conditions between Sustainalytics and Bloom.

Sustainalytics' Second-Party Opinion, while reflecting on the alignment of the Framework with market standards, is no guarantee of alignment nor warrants any alignment with future versions of relevant market

[1] The Green Bond Principles are administered by the International Capital Market Association and are available at https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/.
[2] The Bloom Energy Green Bond Framework is available on Bloom Energy Corporation's website at: www.investor.bloomenergy.com
[3] When operating multiple lines of business that serve a variety of client types, objective research is a cornerstone of Sustainalytics and ensuring analyst independence is paramount to producing objective, actionable research. Sustainalytics has therefore put in place a robust conflict management framework that specifically addresses the need for analyst independence, consistency of process, structural separation of commercial and research (and engagement) teams, data protection and systems separation. Last but not the least, analyst compensation is not directly tied to specific commercial outcomes. One of Sustainalytics' hallmarks is integrity, another is transparency.

standards. Furthermore, Sustainalytics' Second-Party Opinion addresses the anticipated impacts of eligible projects expected to be financed with bond proceeds but does not measure the actual impact. The measurement and reporting of the impact achieved through projects financed under the Framework is the responsibility of the Framework owner.

In addition, the Second-Party Opinion opines on the intended allocation of proceeds but does not guarantee the realised allocation of the bond proceeds towards eligible activities.

No information provided by Sustainalytics under the present Second-Party Opinion shall be considered as being a statement, representation, warrant or argument either in favour or against, the truthfulness, reliability or completeness of any facts or statements and related surrounding circumstances that Bloom has made available to Sustainalytics for the purpose of this Second-Party Opinion.

Sustainalytics' Opinion

Section 1: Sustainalytics' Opinion on the Bloom Energy Green Bond Framework

Sustainalytics is of the opinion that the Bloom Energy Green Bond Framework is credible and impactful, and aligns with the four core components of the GBP. Sustainalytics highlights the following elements of Bloom's Green Bond Framework:

- Use of Proceeds:
  - The eligible categories: Renewable Energy, Energy Efficiency, Climate Change Adaptation, Sustainable Water and Wastewater Management, Pollution Prevention and Control, Green Buildings, and Clean and Mass Transportation, are aligned with those recognized by the GBP.
  - Within the Renewable Energy category, the Company intends on financing the following:
    - Research and development (R&D) of biogas, hydrogen, and Bioenergy with Carbon Capture and Storage (BECCS) applications.
      - Sustainalytics views positively these R&D activities as (i) they are anticipated to have positive environmental outcomes, (ii) the Framework defines specific product types and application areas for R&D expenditures, and (iii) Bloom has a demonstrated track record of developing and deploying new and advanced technology. It is noted that it is more difficult to track and measure impacts until products reach the commercialization stage, and Sustainalytics therefore encourages Bloom to disclose the anticipated/ targeted outcomes of such R&D initiatives through percentage savings or a qualitative description of expected outcomes.
      - Sustainalytics considers CCS to be an environmentally impactful activity in line with green bond market expectations when applied to bioenergy (BECCS).
    - Manufacturing of technology used for cleaning of biogas. Such cleanup modules are required to transform biogas into a substitute for pipeline-quality natural gas and will be installed with the intent of increasing the supply of renewable natural gas (RNG) to power Bloom's cells. Sustainalytics considers these installations to provide environmental benefits (see comment below as it relates to the use of landfill gas).
    - Manufacturing of electrolyzers to produce hydrogen from electrolysis of water. Sustainalytics notes that while electrolysis can make use of electricity from both renewable and fossil fuel sources, that improved and expanded capacity to produce hydrogen from electricity enables an overall greening of hydrogen production.
    - Manufacturing of Bloom Energy Servers, Bloom's solid oxide fuel cell platform, that are intended to run on clean fuels such as biogas or hydrogen. Currently, Bloom's servers rely primarily on natural gas inputs; cells destined for this use will not be financed by green bond proceeds. Sustainalytics views the production of fuel cells which run on low-carbon fuels to be aligned with market practice.
    - Developing biogas projects to generate renewable fuels from waste, such as from agricultural waste, municipal landfills, or wastewater treatment facilities. Bloom intends to carry out these projects to provide low-carbon fuels for its fuel cells.

    - Feedstock utilized in such projects will meet the emissions criteria prescribed by Climate Bonds Initiative and sourcing criteria prescribed by California Air Resources Board. Sustainalytics views positively this incorporation of external criteria in the project selection process.
    - Landfill Gas (LFG) capture for energy generation reduces methane emissions relative to landfills with no gas capture, and provides an option for low carbon energy production. Nevertheless, Sustainalytics does not always consider investments in LFG capture facilities to provide the level of net impact suitable for a green bond, noting that investments in landfilling facilities may promote unsustainable waste management practices. Bloom intends on financing LFG capture projects on the closed or decommissioned cells of landfills where currently surplus methane generated is flared. Sustainalytics therefore views favourably the intent of the projects financed under this category and their potential environmental benefits, and encourages ongoing monitoring of fugitive methane and compliance with the waste hierarchy.
  - Within the Energy Efficiency category, Bloom intends on financing equipment maintenance and upgrades, namely its fuel cell stack replacement program. Eligible systems will be those that are currently operating on biogas or hydrogen or that, through the upgrades carried out, are being enabled to transition to full hydrogen compatibility. Fuel cell performance tends to deteriorate over time and replacement can lead to overall improved energy efficiency thereby delivering positive environmental outcomes. Further, switching to cleaner fuels such as hydrogen from natural gas will also lead to environmental benefits. Accordingly, Sustainalytics considers investments planned under this category to be aligned with market practice.
  - Within the Climate Change Adaptation category, Bloom intends on financing expenses related to components specific to microgrids that could be installed at client sites (mainly commercial & industrial customers) to supply on-demand electricity and manage grid instability caused by climate-triggered events. Sustainalytics notes that majority of these investments are planned in the state of California where grid stability and climate-driven disasters are a major problem (please refer Section 3 for more details) and therefore considers investments in such technologies to be aligned with market practice, while noting that best practice for the financing of climate adaptation is to conduct robust vulnerability assessments.
  - Within the Sustainable Water and Wastewater Management category, Bloom intends on financing projects aimed at improving water efficiency in Bloom's electrolyzer and fuel cell systems that use water during start-up. Sustainalytics considers investments in this category to be aligned with market practice and encourages reporting on the quantitative benefits achieved.
  - Within the Pollution Prevention and Control category, Bloom intends on financing projects that enable end-of-life recycling of components of its Energy Server systems. Sustainalytics views positively that such programs can enable recycling of up to 98% of Energy Server components and considers investments planned in this category to be aligned with market practice.
  - Within the Green Buildings category, Bloom intends on financing the construction or upgrades of its office space with an intention to reduce the carbon footprint of its corporate buildings. Such buildings/ upgrades will be certified by third-party certification schemes such as LEED, BREEAM or Energy Star. Sustainalytics considers the schemes cited to be credible, the levels (LEED Gold or Higher, BREEAM Very Good or Higher) to be robust, and accordingly these investments to be aligned with market practice. Please refer to Appendix 1 on details about the certification schemes.
  - Within the Clean and Mass Transportation category, Bloom intends on financing expenditures related to manufacturing of Energy Servers with Electric Vehicle (EV) charging capability, EV charging components, or electrolyzers to generate renewable hydrogen for fuel in transport. Sustainalytics considers investments in EVs and associated infrastructure to be positive for the environment and aligned with market practice.
- Project Evaluation and Selection:
  - Projects will be evaluated by Bloom's Sustainability, Quality, Operations, Engineering and Product teams working cross-functionally to ensure alignment with the criteria specified above as well as overall objectives of the Company.
  - Final approval of the projects will be jointly provided by the Treasurer and Head of Environmental and Social Governance of Bloom.

  - Based on the well-defined process for project evaluation and executive-level participation in approvals, Sustainalytics considers this process to be in line with market practice.
- Management of Proceeds:
  - Bloom Energy has established an internal tracking system to manage proceeds from issuance led by Finance and Treasury.
  - Bloom Energy intends on utilizing bond proceeds to finance expenses incurred within two years preceding the date of issuance or new projects up to and including bond maturity. Pending allocation of proceeds, Bloom intends on investing the funds in liquid assets such as cash, equivalents or other securities in line with Bloom Energy's investment policy. Sustainalytics considers market practice to be allocating the net proceeds within 24 months of issuance and notes that Bloom may exceed this timeline.
  - Based on a well-defined policy for managing proceeds and disclosure on temporary allocation, Sustainalytics considers this process overall to be in line with market practice.
- Reporting:
  - Bloom Energy intends on preparing and making publicly available on its website an annual report outlining allocations from bond proceeds on a project-portfolio basis along with the outstanding amount of proceeds yet to be allocated.
  - The report will also include performance on key impact measurement parameters such as CO_2e emissions avoided, criteria pollutant emissions avoided, and water savings and, where feasible, a selection of brief project descriptions.
  - Based on the commitment to both allocation and impact reporting, Sustainalytics considers this process to be in line with market practice.

Alignment with Green Bond Principles 2018

Sustainalytics has determined that the Bloom Energy Green Bond Framework aligns to the four core components of the GBP. For detailed information please refer to Appendix 2: Green Bond/Green Bond Programme External Review Form.

Section 2: Sustainability Strategy of Bloom

Contribution of framework to Bloom Energy Corporation's sustainability strategy

Bloom's current business involves developing and operating solid oxide fuel cell platforms installed on client sites to provide continuous, reliable, and on-demand energy without combustion. These systems serve as backup sources of power especially in areas with grid stability issues providing a more energy efficient alternative to the grid. Accordingly, each Bloom system leads to implied carbon reduction and in 2019, the Company reported a 28% reduction in CO_2e versus the grid for the energy generated from its systems.[4] Bloom's energy systems have an emissions rate of 679-833 lbs. CO_2/MWh which is significantly lower than that reported by coal plants (2,065 lbs. CO_2/MWh) and natural gas plants (895-1,037 lbs. CO_2/MWh).

Sustainability is a core part of Bloom's business and it is committed to rapid decarbonization through its product and business strategy. The Company primarily relies on natural gas as fuel for its Energy Server systems and is focused on scaling its procurement from decomposing waste in landfills through investments planned under this Framework.[5] Sustainalytics views positively the intention to transition to biogas which is a cleaner fuel as compared to natural gas.

Further, Bloom continues to finance R&D to evolve its hydrogen offering which will enable the Company to transition its fuel cell systems to hydrogen compatibility and further reduce lifecycle emissions. In line with this larger objective, Bloom has recently announced the following key partnerships:

  - In July 2020, Bloom announced its entry into commercial hydrogen through a partnership to sell hydrogen-powered fuel cells and electrolyzers to produce renewable hydrogen to a large conglomerate in South Korea. The transaction will generate over $1 billion in revenues for Bloom

[4] Bloom Energy SEC filings, Schedule 14A: 2020 Notice and Proxy Statement at: https://www.sec.gov/Archives/edgar/data/1664703/000114036120007743/nc10010494x1_def14a.htm#a_007
[5] Bloom Energy SEC filings, Form 10-K, Annual Report at: http://d18rn0p25nwr6d.cloudfront.net/CIK-0001664703/2cb2719d-14a5-4af1-86d3-45fab852d821.pdf

over its lifetime and is aligned with the South Korean government's objective of building 1,200 stations to fuel a planned 6.2 million hydrogen cars by 2040.[6]

- In October 2019, Bloom announced a partnership with a California-based dairy technology company to develop and commercially deploy the world's first end-to-end solution for the capture of methane from dairy waste and its conversion to renewable electricity.[7]
- In June 2020, Bloom announced a partnership with Samsung Heavy Industries to design and develop fuel-cell powered ships that could serve as an efficient and less-pollutive alternative in the shipping industry.[8]

Through these partnerships and research initiatives, Bloom continues to transition to a business model with cleaner sources of fuel via its product offering. Accordingly, Sustainalytics is of the opinion that the Bloom Energy Green Bond Framework is aligned with the company's overall sustainability strategy and initiatives and will further the Company's action on its key environmental priorities.

Well positioned to address common environmental and social risks associated with the projects

While Sustainalytics anticipates that Bloom's intended investments under the Framework will lead to positive environmental outcomes, it does recognize environmental and social risks that could be associated with these investments. Some of the key risks include environment, health and safety risks associated with construction, operation, and maintenance of hydrogen generation and distribution infrastructure as well as materials handling and manufacturing.

Sustainalytics acknowledges that Bloom addresses some of the risks mentioned above through existing Environmental Health & Safety (EH&S) policies, procedures and programs and is currently in the process of developing an Environmental Management System (EMS), the first phase of which is intended to be completed by end of the current year. In addition to reviewing existing policies and resources, Sustainalytics encourages the issuer to prioritize development of the EMS and make any relevant subsequently developed policies publicly available when launched.

Sustainalytics notes other mechanisms in place that mitigate the above risks as follows:

- All projects that are taken up by Bloom are subject to oversight and governance from local, state, and national regulations regarding the environment and health & safety. Bloom has a Code of Conduct in place which delineates responsibility of compliance on the employees and contractors.
- Bloom has training and retraining programs to ensure employee compliance with existing health and safety policies and has designed specific policies for activities with higher safety risk such as construction, operation of heavy equipment, and for protection from falls.
- The Bloom Energy Safety Team (BEST) is a joint cross-functional worker and management committee instated to promote a safe and injury-free workplace which meets at least quarterly to discuss EH&S updates and champion safety communication throughout the organization.
- Sustainalytics notes that Bloom's headquarters and primary market is the United States, which is recognized under the Equator Principle's Designated Countries[9] list for having robust environmental and social governance, as well as strong legislation in place.
- All of Bloom's systems are built to comply with leading design and safety standards such as ANSI, IEEE, ASME, and NFPA.
- Bloom relies on prudent electrical practices for installation of equipment which includes practices, equipment, specifications and standards relied upon by players in the grid-tied fuel cell electrical generation market in the US or those that are specifically approved by North American Electric Reliability Corporation (NERC).

Based on these policies, procedures and program standards and assessments and subject to timely implementation of the EMS under development, Sustainalytics is of the opinion that Bloom has implemented

[6] Businesswire report, Bloom Energy announces initial strategy for hydrogen market entry, published on July 15 2020 at: https://www.businesswire.com/news/home/20200715005286/en/

[7] Bloom Energy website, Calbio and Bloom Energy to generate renewable electricity from dairy waste, published on October 10, 2019 at: https://www.bloomenergy.com/newsroom/press-releases/calbio-and-bloom-energy-generate-renewable-electricity-dairy-waste

[8] Bloom Energy website, Samsung Heavy Industries and Bloom Energy advance plans for clean power ships with joint development agreement published on June 29, 2020 at: https://www.bloomenergy.com/newsroom/press-releases/samsung-heavy-industries-and-bloom-energy-advance-plans-clean-power-ships

[9] Designated Countries are those countries deemed to have robust environmental and social governance, legislation systems and institutional capacity designed to protect their people and the natural environment.

adequate measures and is well positioned to manage and mitigate environmental and social risks commonly associated with the eligible categories.

Section 3: Impact of Use of Proceeds

All seven use of proceeds categories are aligned with those recognized by the GBP. This section summarizes Sustainalytics' research on the local context of key use cases listed in the Framework:

Role of solid oxide fuel cell systems as backup and off-grid power in California

The problem of power outages in California has reached catastrophic proportions, with August 2020 witnessing the largest power outage in the state's history, impacting an estimated 3.3 million people- more than twice the number affected in the second largest outage in 2001.[10] The primary reason is an exceptionally high demand resulting from a region-wide heat wave.[11] The state government typically meets such shortfalls through imports from neighboring states but the heat wave has affected several regions along the US west coast leaving little surplus energy for other states to export.[12]

Such power outages disrupt business continuity and have a significant economic impact as well. Between October 2017 and 2019, an estimated 234,000 commercial and industrial (C&I) customers were impacted in California due to power shutoffs[13] with each outage costing small C&I businesses up to an estimated $2.4 billion.[14]

Stationary solid oxide fuel cells can serve as backup sources to power small installations in remote areas or, in an emergency, backup capacity for facilities that require consistent power, including large data centers. Given the critical need for backup sources of power in such areas, Sustainalytics views positively investments planned under the Framework and recognizes their importance in the energy value chain.

Environmental benefits of fuel cell systems and the importance of low-carbon fuels

As discussed above, unmatched demand for power is typically imported from neighbouring energy providers which are flexible but typically the least efficient energy sources. A study completed by DNV GL for Bloom Energy concluded that in the wholesale power market, the marginal generator of power with surplus power is typically a CO_2 emitter and is generally the highest CO_2 emitter operating at any given time. In comparison, fuel cell systems not only have a lower carbon footprint but also the potential to generate 100% clean power if operated entirely on hydrogen or other carbon-neutral bio-based fuels.

Sustainalytics notes that investments planned under this Framework include the sourcing of fuel (primarily natural gas) from decomposing waste at landfills through biogas plants. The output from such plants, known as Renewable Natural Gas ("RNG), is functionally identical to natural gas and has a similar direct emission profile. However, the lifecycle carbon intensity is much lower, and potentially even negative, as it sources its carbon content from waste matter that would decompose and be freely released into the atmosphere. The California Low Carbon Fuel Standard (LCFS) certifies the lifecycle carbon intensities of various fuels; based on their data, the lifecycle carbon intensity of RNG is at least 40% less than traditional natural gas, while dairy waste and municipal solid waste digesters exhibit negative carbon intensities.[15]

Sustainalytics believes that these investments along with others will contribute to further reducing the carbon intensity of Bloom's fuel cell systems and thereby deliver positive environmental outcomes.

Application of hydrogen as fuel in vehicles

One of the key use cases for hydrogen fuel cells has been in the transportation sector with the onset of fuel cell electric vehicles (FCEVs). By combining hydrogen stored in a tank with oxygen from the air to produce electricity, such technologies emit only water and zero tailpipe emissions.[16] FCEVs are equipped with notable energy efficiency features such as regenerative braking systems, which capture the energy lost during braking

[10] Deadline report, California facing largest power outages in its history this week amid record heatwave, published on August 17, 2020 at: https://deadline.com/2020/08/california-the-largest-power-outages-in-its-history-this-week-1203015664/
[11] Utility Dive opinion, California power outages underscore challenges of maintaining reliability during climate change, the energy transition, published on August 19, 2020 at: https://www.utilitydive.com/news/california-power-outages-underscore-challenge-of-maintaining-reliability-du/583727/#:~:text=The%20principal%20cause%20of%20California's,reaching%20over%20100%20degrees%20Fahrenheit.
[12] NPR report, Climate change lesson from California's blackouts: prepare for extremes, published on August 19, 2020 at: https://www.npr.org/2020/08/19/903910770/climate-change-lesson-from-californias-blackouts-prepare-for-extremes
[13] Bloom Energy website, California power outage map, published at: https://www.bloomenergy.com/bloom-energy-outage-map
[14] Ibid
[15] https://www.mjbradley.com/sites/default/files/MJB%26A_RNG_Final.pdf
[16] Digital Trends, Hydrogen was the fuel of tomorrow, so what happened: https://www.digitaltrends.com/cars/hydrogen-cars/

and store it in a battery for future consumption.[17] According to the U.S. Department of Energy, while FCEVs and the hydrogen infrastructure needed to fuel them are still in the early stages of wide-spread implementation, it has proven to be a viable and environmentally friendly alternative to fossil fuel-powered transportation.[18] Given Bloom's intention to develop such technologies to accelerate the transition away from traditional gas and diesel vehicles, Sustainalytics notes the benefits of using hydrogen fuel cells in this context.

The impact of green buildings in reducing GHG emissions

According to the World Green Building Council, the building sector is a significant contributor to both global energy use and total CO_2 emissions, with building construction and operations accounting for 36% of global final energy use and contributing nearly 40% of energy-related CO_2 emissions globally. In the United States alone, residential and commercial buildings account for 39% of total U.S. energy consumption[19] and 72% of national electricity consumption.[20] The World Green Building Council states that while countries are continuing to implement and update building energy codes and certification policies, most expected building growth is expected in countries that do not have mandatory energy codes and policies in place as of 2018. Concurrently, investments in energy efficiency in buildings has slowed, with investments only experiencing a growth of 4.7% in 2017 (3% adjusted for inflation), which is sited as the lowest increase rate in recent years.[21] In this context, Bloom's investments in corporate buildings which have received certification from international building rating and certification systems has the potential to significantly reduce GHG emissions associated with its overall operations.

Alignment with/contribution to SDGs

The Sustainable Development Goals (SDGs) were set in September 2015 and form an agenda for achieving sustainable development by the year 2030. This green bond advances the following SDG goals and targets:

Use of Proceeds Category	SDG	SDG target
Renewable Energy	7. Affordable and Clean Energy	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix
Energy Efficiency	7. Affordable and Clean Energy	7.3 By 2030, double the global rate of improvement in energy efficiency
Climate Change Adaptation	13. Climate Action	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries
Sustainable Water and Wastewater Management	6. Clean Water and Sanitation	6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Pollution Prevention and Control	12. Responsible Consumption and Production	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
Green Buildings	9. Industry Innovation and Infrastructure	9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities
Clean and Mass Transportation	11. Sustainable Cities and Communities	11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road

[17] U.S. Department of Energy, Fuel Cell Electric Vehicles: https://afdc.energy.gov/vehicles/fuel_cell.html
[18] Ibid
[19] U.S. Energy Information Administration FAQ: https://www.eia.gov/tools/faqs/faq.php?id=86&t=1
[20] EPA Energy and Environment, Electricity Customers: https://www.epa.gov/energy/electricity-customers#industrial
[21] World Green Building Council, 2018 Global Status Report: https://www.worldgbc.org/sites/default/files/2018%20GlobalABC%20Global%20Status%20Report.pdf

		safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

Conclusion

Bloom has developed the Bloom Energy Green Bond Framework under which it has issued a green bond and intends on using the proceeds to finance projects in seven categories namely, Renewable Energy, Energy Efficiency, Climate Change Adaptation, Sustainable Water and Wastewater Management, Pollution Prevention and Control, Green Buildings, Clean and Mass Transportation. Sustainalytics considers that the projects funded by the proceeds will provide positive environmental impact and in particular will support Bloom's ability to deploy low-carbon fuel cell technology.

The Bloom Energy Green Bond Framework outlines a process by which proceeds will be tracked, allocated, and managed, and commitments have been made for reporting on the allocation and impact of the use of proceeds. Furthermore, Sustainalytics believes that the Framework is aligned with the overall sustainability strategy of the Company and that the use of proceeds categories will contribute to the advancement of the UN Sustainable Development Goals 6, 7, 9, 11,12 and 13.

Based on the above, Sustainalytics is confident that Bloom Energy is well-positioned to issue green bonds and that the Bloom Energy Green Bond Framework is robust, transparent, and in alignment with the four core components of the Green Bond Principles (2018).

Appendices

Appendix 1: Comparison of Green Building Certification Schemes

	LEED[22]	Energy Star[23]	BREEAM[24]
Background	Leadership in Energy and Environmental Design (LEED) is a US Certification System for residential and commercial buildings used worldwide. LEED was developed by the non-profit U.S. Green Building Council (USGBC) and covers the design, construction, maintenance and operation of buildings.	ENERGY STAR is a U.S Environmental Protection Agency voluntary program that provides independently certified energy efficiency ratings for products, homes, buildings, and industrial plants. Certification is given on an annual basis, so a building must maintain its high performance to be certified year to year.	BREEAM (Building Research Establishment Environmental Assessment Method) was first published by the Building Research Establishment (BRE) in 1990. Based in the UK, this scheme can be used for new, refurbished and extension of existing buildings.
Certification levels	• Certified • Silver • Gold • Platinum	• 1-100 score, 75 is minimum for certification	• Pass • Good • Very Good • Excellent • Outstanding
Areas of assessment	• Energy and atmosphere • Sustainable Sites • Location and Transportation • Materials and resources • Water efficiency • Indoor environmental quality • Innovation in Design • Regional Priority	• Energy use	• Management • Energy • Land Use and Ecology • Pollution • Transport • Materials • Water • Waste • Health and Wellbeing • Innovation
Requirements	Minimum requirements independent of level of certification; point-based scoring system weighted by category to determine certification level. The rating system is adjusted to apply to specific sectors, such as: New Construction, Major Renovation, Core and Shell Development, Schools-/Retail-/Healthcare New Construction and Major Renovations, and Existing Buildings: Operation and Maintenance.	1-100 score based on energy use, as calculated through the Portfolio Manager tool. Raw score is adjusted based on location, operating conditions, and other factors. The numerical score indicates performance better than at least 75 percent of similar buildings nationwide.	Minimum requirements depending on the level of certification; scoring system weighted by category, producing a percentage-based overall score. The majority of BREEAM issues are flexible, meaning that the client can choose which to comply with to build their performance score. BREAAM has two stages/ audit reports: a 'BREEAM Design Stage' and a 'Post Construction Stage', with different assessment criteria.
Qualitative Considerations	Widely accepted within the industry, both in North America and internationally, and considered a guarantee of strong performance.	Accounts only for energy use, not other measures of environmental performance. Is a key component of other green building certification systems.	Used in more than 70 countries: Good adaptation to the local normative context. Predominant environmental focus, lower levels are less strict than LEED.

[22] USGBC, LEED, at: https://new.usgbc.org/leed.
[23] ENERGY STAR, at: https://www.energystar.gov/.
[24] BREEAM, at: www.breeam.com.

Performance display			

Appendix 2: Green Bond / Green Bond Programme - External Review Form

Section 1. Basic Information

Issuer name:	Bloom Energy Corporation
Green Bond ISIN or Issuer Green Bond Framework Name, if applicable:	Bloom Energy Green Bond Framework
Review provider's name:	Sustainalytics
Completion date of this form:	September 9, 2020
Publication date of review publication:	

Section 2. Review overview

SCOPE OF REVIEW

The following may be used or adapted, where appropriate, to summarise the scope of the review.

The review assessed the following elements and confirmed their alignment with the GBP:

☒	Use of Proceeds	☒	Process for Project Evaluation and Selection
☒	Management of Proceeds	☒	Reporting

ROLE(S) OF REVIEW PROVIDER

☒	Consultancy (incl. 2nd opinion)	☐	Certification
☐	Verification	☐	Rating
☐	Other *(please specify)*:		

Note: In case of multiple reviews / different providers, please provide separate forms for each review.

EXECUTIVE SUMMARY OF REVIEW and/or LINK TO FULL REVIEW *(if applicable)*

Please refer to Evaluation Summary above.

Section 3. Detailed review

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. USE OF PROCEEDS

Overall comment on section *(if applicable)*:

The eligible categories for the use of proceeds, Renewable Energy, Energy Efficiency, Climate Change Adaptation, Sustainable Water and Wastewater Management, Pollution Prevention and Control, Green Buildings, Clean and Mass Transportation, are aligned with those recognized by the Green Bond Principles 2018. Sustainalytics considers that the eligible categories will lead to positive environmental impacts by supporting more environmentally friendly energy options and advance the UN Sustainable Development Goals, specifically SDGs 6,7,9,11,12 and 13.

Use of proceeds categories as per GBP:

☒	Renewable energy	☒	Energy efficiency
☒	Pollution prevention and control	☐	Environmentally sustainable management of living natural resources and land use
☐	Terrestrial and aquatic biodiversity conservation	☒	Clean transportation
☒	Sustainable water and wastewater management	☒	Climate change adaptation
☐	Eco-efficient and/or circular economy adapted products, production technologies and processes	☒	Green buildings
☐	Unknown at issuance but currently expected to conform with GBP categories, or other eligible areas not yet stated in GBP	☐	Other *(please specify)*:

If applicable please specify the environmental taxonomy, if other than GBP:

2. PROCESS FOR PROJECT EVALUATION AND SELECTION

Overall comment on section (if applicable):

Bloom's Sustainability Team will be charged with project evaluation, with final approval jointly provided by the Treasurer and Head of Environmental and Social Governance. Sustainalytics considers the project selection process in line with market practice.

Evaluation and selection

☒	Credentials on the issuer's environmental sustainability objectives	☒	Documented process to determine that projects fit within defined categories
☒	Defined and transparent criteria for projects eligible for Green Bond proceeds	☒	Documented process to identify and manage potential ESG risks associated with the project

☒ Summary criteria for project evaluation and selection publicly available

☐ Other *(please specify):*

Information on Responsibilities and Accountability

☐ Evaluation / Selection criteria subject to external advice or verification

☒ In-house assessment

☐ Other (please specify):

3. MANAGEMENT OF PROCEEDS

Overall comment on section *(if applicable)*:

Bloom has internal tracking systems in place to monitor proceeds. Pending allocation, funds will be temporarily held in liquid assets such as cash, equivalents and other securities in line with the Company's investment policy. This is in line with market practice.

Tracking of proceeds:

☒ Green Bond proceeds segregated or tracked by the issuer in an appropriate manner

☒ Disclosure of intended types of temporary investment instruments for unallocated proceeds

☐ Other *(please specify)*:

Additional disclosure:

☐ Allocations to future investments only

☒ Allocations to both existing and future investments

☐ Allocation to individual disbursements

☐ Allocation to a portfolio of disbursements

☐ Disclosure of portfolio balance of unallocated proceeds

☐ Other *(please specify)*:

4. REPORTING

Overall comment on section (if applicable):

Bloom intends to report allocation proceeds on its website on an annual basis until full allocation on a project-portfolio basis. In addition, Bloom Energy Corporation is committed to reporting on relevant impact metrics. Sustainalytics views Bloom Energy Corporation's allocation and impact reporting as aligned with market practice.

Use of proceeds reporting:

☐ Project-by-project

☒ On a project portfolio basis

☐ Linkage to individual bond(s) ☐ Other *(please specify):*

Information reported:

☒ Allocated amounts ☒ Green Bond financed share of total investment

☐ Other *(please specify):*

Frequency:

☒ Annual ☐ Semi-annual

☐ Other (please specify):

Impact reporting:

☐ Project-by-project ☒ On a project portfolio basis

☐ Linkage to individual bond(s) ☐ Other (please specify):

Information reported (expected or ex-post):

☒ GHG Emissions / Savings ☒ Energy Savings

☒ Decrease in water use ☐ Other ESG indicators (please specify):

Frequency

☒ Annual ☐ Semi-annual

☐ Other (please specify):

Means of Disclosure

☐ Information published in financial report ☐ Information published in sustainability report

☐ Information published in ad hoc documents ☒ Other (please specify): Annual Report for green bond

☐ Reporting reviewed (if yes, please specify which parts of the reporting are subject to external review):

Where appropriate, please specify name and date of publication in the useful links section.

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE

Type(s) of Review provided:

☐ Consultancy (incl. 2nd opinion) ☐ Certification

☐ Verification / Audit

☐ Rating

☐ Other *(please specify):*

Review provider(s):

Date of publication:

ABOUT ROLE(S) OF INDEPENDENT REVIEW PROVIDERS AS DEFINED BY THE GBP

i. Second-Party Opinion: An institution with environmental expertise, that is independent from the issuer may issue a Second-Party Opinion. The institution should be independent from the issuer's adviser for its Green Bond framework, or appropriate procedures, such as information barriers, will have been implemented within the institution to ensure the independence of the Second-Party Opinion. It normally entails an assessment of the alignment with the Green Bond Principles. In particular, it can include an assessment of the issuer's overarching objectives, strategy, policy and/or processes relating to environmental sustainability, and an evaluation of the environmental features of the type of projects intended for the Use of Proceeds.

ii. Verification: An issuer can obtain independent verification against a designated set of criteria, typically pertaining to business processes and/or environmental criteria. Verification may focus on alignment with internal or external standards or claims made by the issuer. Also, evaluation of the environmentally sustainable features of underlying assets may be termed verification and may reference external criteria. Assurance or attestation regarding an issuer's internal tracking method for use of proceeds, allocation of funds from Green Bond proceeds, statement of environmental impact or alignment of reporting with the GBP, may also be termed verification.

iii. Certification: An issuer can have its Green Bond or associated Green Bond framework or Use of Proceeds certified against a recognised external green standard or label. A standard or label defines specific criteria, and alignment with such criteria is normally tested by qualified, accredited third parties, which may verify consistency with the certification criteria.

iv. Green Bond Scoring/Rating: An issuer can have its Green Bond, associated Green Bond framework or a key feature such as Use of Proceeds evaluated or assessed by qualified third parties, such as specialised research providers or rating agencies, according to an established scoring/rating methodology. The output may include a focus on environmental performance data, the process relative to the GBP, or another benchmark, such as a 2-degree climate change scenario. Such scoring/rating is distinct from credit ratings, which may nonetheless reflect material environmental risks.

Disclaimer

About Sustainalytics, a Morningstar Company

Sustainalytics, a Morningstar Company, is a leading ESG research, ratings and data firm that supports investors around the world with the development and implementation of responsible investment strategies. The firm works with hundreds of the world's leading asset managers and pension funds who incorporate ESG and corporate governance information and assessments into their investment processes. The world's foremost issuers, from multinational corporations to financial institutions to governments, also rely on Sustainalytics for credible second-party opinions on green, social and sustainable bond frameworks. In 2020, Climate Bonds Initiative named Sustainalytics the "Largest Approved Verifier for Certified Climate Bonds" for the third consecutive year. The firm was also recognized by Environmental Finance as the "Largest External Reviewer" in 2020 for the second consecutive year. For more information, visit www.sustainalytics.com.

Named
2015: Best SRI or Green Bond Research or Rating Firm
2017, 2018, 2019: Most Impressive Second Opinion Provider