Bloom energy®

2020 Sustainability Report

[EM]POWERING RESILIENT COMMUNITIES

Message from Leadership

Dear Stakeholders,

I am pleased to share with you Bloom Energy's first Sustainability Report. As I look back at 2020 – a year that impacted society and the planet in ways previously unimaginable – I am heartened by what I see. Yes, we witnessed unspeakable loss and outrage. I certainly do not wish to gloss over that fact. But I firmly believe that yesterday's tragedies forced us to take stock of the world around us and recognize what is essential to the continued functioning of society. Communities, companies, and countries began to think about self-reliance, and they gained a valuable appreciation of the need to create pockets of high resilience in the process.

We demonstrated a collective resolve in the face of crisis, which enabled us to both persevere and envision a better tomorrow. Our mission at Bloom is to make clean, reliable, energy affordable for everyone in the world. 2020 certainly pushed us one step closer to that goal.

Resilience in 2020

The last several months have given rise to a heightened focus on purpose, sustainability, and resiliency. As the world's citizens grappled with an insidious virus that continues to run its deadly course, the American people faced a social justice reckoning, and critical infrastructure buckled under the stress of extreme weather, true green shoots in other areas did, in fact, appear.

Restricted movement and a significant slowdown in social and economic activities mandated by the lockdowns led to global reductions in combustion-based power generation and transportation at a scale and pace that would have been unthinkable in normal times. It led to improvement in air quality and a reduction in water pollution in many parts of the world. Skies that were previously smog-filled cleared. Global CO2 emissions decreased. The benefits of a sustainable planet devoid of combustion-based energy were abundantly evident in a relatively short period of time, and awareness of the possibility of achieving a cleaner, more resilient future took hold.

At Bloom Energy, we played our own small part. Deemed essential, we were able to resume operations during the pandemic, ensuring other essential services – like hospitals, banks, and grocery stores – could continue to operate with combustion and pollution-free reliable power.

The ingenuity and sense of purpose of our employees allowed us to make a contribution that meant the difference between life and death at a time of extreme uncertainty. Following California Governor Gavin Newsom's call to action, Bloom addressed COVID-19 head-on. Literally overnight, one of our enterprising engineers taught himself to refurbish a ventilator – and then taught a team of colleagues to do the same. As of this writing,

Dr. KR Sridhar
Founder, Chairman and
Chief Executive Officer

Bloom has repaired more than 1,300 much-needed units – at cost – and returned them to service across America for the sole purpose of saving lives.

Our team partnered with El Camino Health to launch the University of Illinois' innovative Shield T3 COVID testing system and mobile laboratory at our facility in Sunnyvale. We powered and hosted the mobile lab to provide rapid testing for Bay Area organizations, and ultimately engaged with more than 3,000 healthcare providers to offer support for COVID ventilators and emergency power.

As the pandemic wore on, California experienced its worst heat wave in decades during the summer of 2020. Hundreds of thousands were without power as an overtaxed grid buckled under the strain. We were able to work with customers who offered to return unused energy to the grid to help lighten the load. And we rapidly deployed our Energy Servers to power several field hospitals in California and Louisiana supporting victims of both COVID-19 and deadly heat and storms.

But while there are finally vaccines against COVID-19, for now the only weapon we have against catastrophic severe weather events – like those in California, Louisiana, New York, and Texas – is to develop the resiliency to withstand them. Updating the entire grid will take years. In the meantime, microgrids – islands of energy resiliency – can fortify critical infrastructure systems to ensure uninterrupted power. Using fuel cells, rooftop solar panels, and energy storage, they provide power when the grid is not available.

In 2020 Bloom systems supported our customers' critical load through 335 outages at 67 sites. During the tropical storm that swept across the Northeast in August, one of our installations housing a 911 call center on Long Island operated through an 18 hour outage. In fact, Bloom has deployed more than 100 microgrids, which have protected customers from more than 1,700 power disruptions since 2018.

While we worked to navigate the external environment, we were also hard at work evolving our business. We have successfully reduced costs and refinanced our debt over the course of 2020. The issuance of $230 million of green convertible senior notes – which will enable us to grow our fuel-flexible platform with an investment framework dedicated to R&D and commercial development of renewable solutions – effectively eliminated high-cost, short-term debt.

And in 2020 we launched our solid oxide electrolyzer program, capable of producing hydrogen from excess renewable power. Experts agree that hydrogen will be central to achieving a net-zero-carbon future. I do believe we are on our way, with countries like South Korea – where Bloom has a significant hydrogen partnership – leading the charge. As the benefits of a lower-carbon society reveal themselves, I am optimistic the rest of the world will take note.

Looking forward to 2021

As for Bloom, we will keep doing our part. 2020 forced us to take a deep look inward. While I am eminently proud of the strong corporate citizenship and resiliency we exhibited during the year, I know we can do more. To that end, we have established a new management framework, which will enable us to better anticipate, staff, and resource sustainability related risks and opportunities. Driven by the pace at which the energy sector – and therefore our business – is transforming, we have prioritized this function.

Implementing this new management structure will allow us to keep pace with the rapid evolution of the energy sector and ensure we are taking the lead on issues, like resilience, that matter most to our customers, our communities, and our employees. We are committed to continual evaluation of our sustainability strategy and will remain transparent as we grow.

The sector's evolution has been accelerated by a renewed recognition that immediate and ambitious climate action is necessary to achieve decarbonization. To meet this goal, we have committed to strategic expansion across our five growth levers of product innovation spanning zero-carbon, renewable and carbon-negative power, and transportation solutions. They include hydrogen solid oxide fuel cells, hydrogen solid oxide electrolyzer cells, carbon capture utilization and storage, biogas, and marine applications. I am excited by the potential of these solutions to empower us to deliver on our mission.

To realize the potential our diversification and innovation provide, we intend to continue our domestic and international expansion and, as a result, our ability to provide cleaner, more resilient, and more affordable sources of energy to all who need it. We believe a zero-carbon future is in our grasp, and we will do all we can to achieve it.

Driven by purpose, our people will continue to develop innovative solutions to vexing problems – whatever their origin. Given the progress we made amidst all the changes that have taken place in the last 12 months, I am inspired by what the future holds and look forward to sharing our progress over the course of 2021.

Sincerely,

Dr. KR Sridhar

About This Report

The health and well-being of our people, communities, and planet matter greatly to us. While our commitment is firmly established, our formal processes, strategies, and management concerning sustainability matters are in their early stages. We recognize that the investment community in particular is focused on understanding not just our social and environmental impact, but also our ability to identify and manage strategic risks and opportunities related to environmental, social, and governance (ESG) factors.

So, in 2020 we focused on conceptualizing a governance structure that gave rise to specific delegation of sustainability oversight by our Board of Directors to one of its committees and to the creation of our ESG Committee. (See “Governance and Oversight”). We also focused on organizing our data to create this inaugural Sustainability Report.

In addition to this progress, we are working to develop more robust risk analysis processes and more formalized data collection and analysis systems -- and to formulate strategies based on both. We’re hard at work on these important action items as well as the development of corporate goals that will drive ongoing performance. Nonetheless, we are proud of the information we share in this report, and it’s important for all our stakeholders to see where we stand. As our programs mature, we expect to report periodically on our goals and our progress. We look forward to what the future holds and to sharing with you how Bloom Energy helps create a healthier, more sustainable world.

This report, covering reporting year 2020 and serving as our baseline reporting year, has been prepared in alignment with Sustainable Accounting Standards Board (SASB) standards and the framework of the Task Force on Climate-related Financial Disclosure (TCFD). We have also referenced certain Global Reporting Initiative (GRI) standards in our reporting approach as indicated in the Appendix, as well as United Nations Sustainable Development Goals.

Contact

Please contact sustainability@bloomenergy.com with any questions on the content.

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About Us

With roots in NASA's space program, Bloom Energy's technology was born from innovation. We trace our roots to work performed by Dr. KR Sridhar, our founder, chairman, and chief executive officer, to enable a sustainable community on Mars.

As a part of that work, Dr. Sridhar and his team built a fuel cell capable of producing air and fuel from electricity generated by a solar panel. They soon realized that their technology could have an even greater impact here on Earth – producing electricity from air and fuel. From this idea, our revolutionary Energy Server was born.

Our Energy Server is an advanced distributed energy generation platform that provides cost-effective, clean, AlwaysON power. Using solid oxide fuel cell technology, Energy Servers convert natural gas, biogas, or hydrogen into electricity at high efficiency and without combustion, significantly reducing environmental impacts.

Sustainable Energy for the Digital World

Our Mission

To make clean, reliable energy affordable for everyone in the world.

Industries Served (Including, but not limited to)

- Banking and financial services
- Cloud services
- Technology and data centers
- Communications and media
- Consumer packaged goods and consumables
- Education
- Government
- Healthcare
- Hospitality
- Logistics
- Manufacturing
- Real estate
- Retail
- Utilities

Markets Currently Served

United States, Japan, India, and S. Korea

Ten states in the United States:

- California
- Connecticut
- Delaware
- Maryland
- Massachusetts
- North Carolina
- New Jersey
- New York
- Pennsylvania
- Virginia

Founded

Established in 2001 as Ion America, renamed Bloom Energy in 2006

Technology

Bloom Energy Servers, powered by proprietary solid oxide fuel cell technology

Solutions

Primary Power and AlwaysON Microgrids

Revenue

2020 full year revenues of $794.2 million

Employees

1,316 – 1,047 U.S.
250 India
19 other countries

Company Type

Distributed energy company

Customers

100+ customers, across 700+ sites

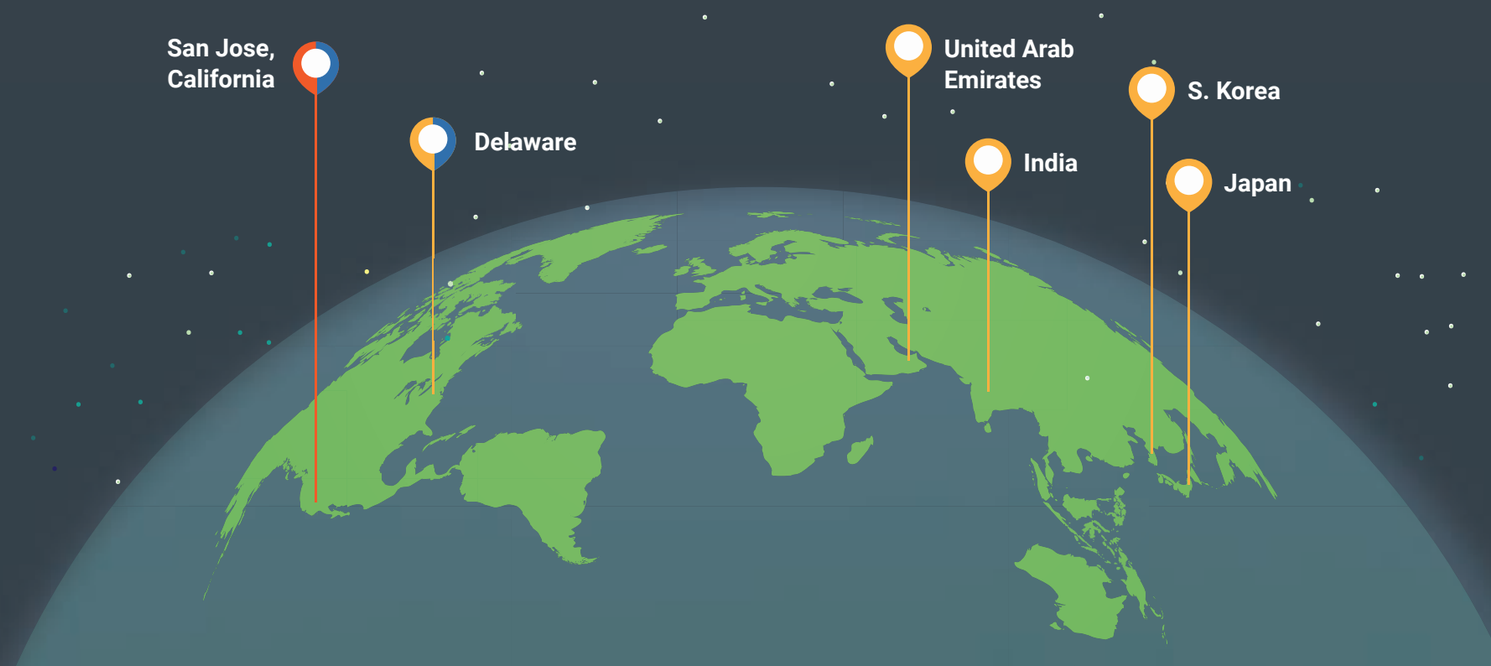
Installed Systems

500+ megawatts (MW)

Headquarters

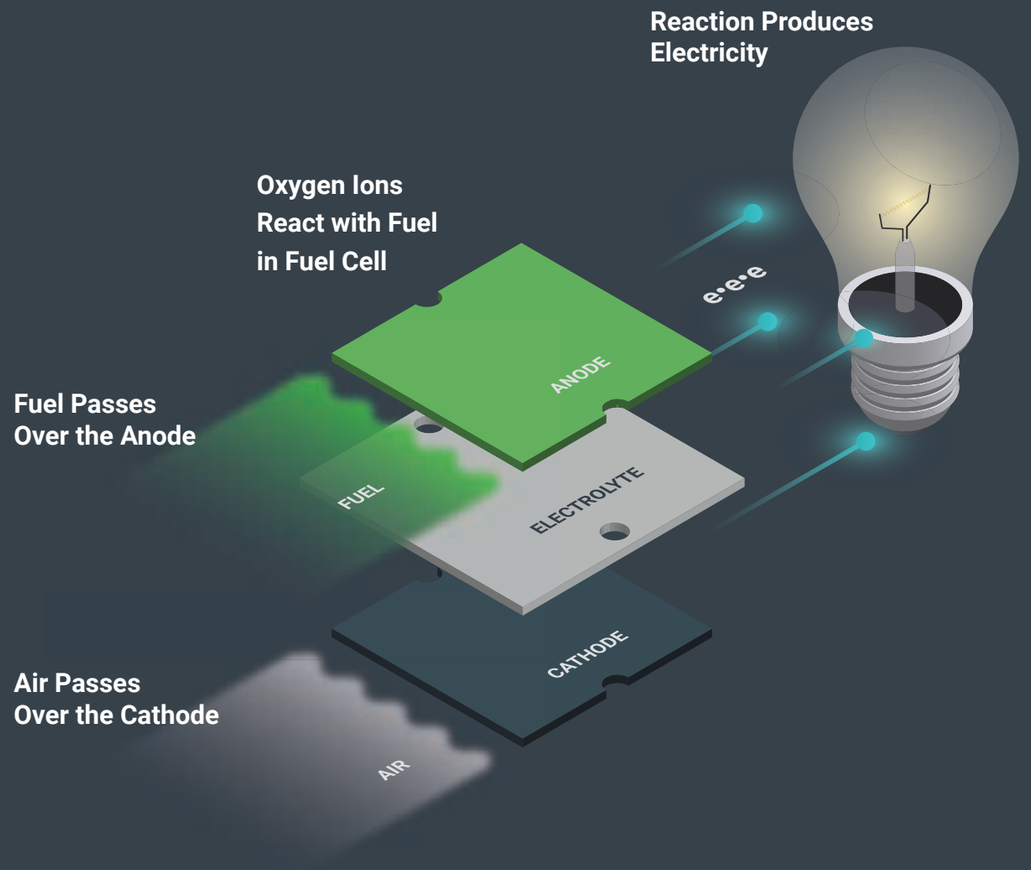
Office Locations

Manufacturing and R&D Locations

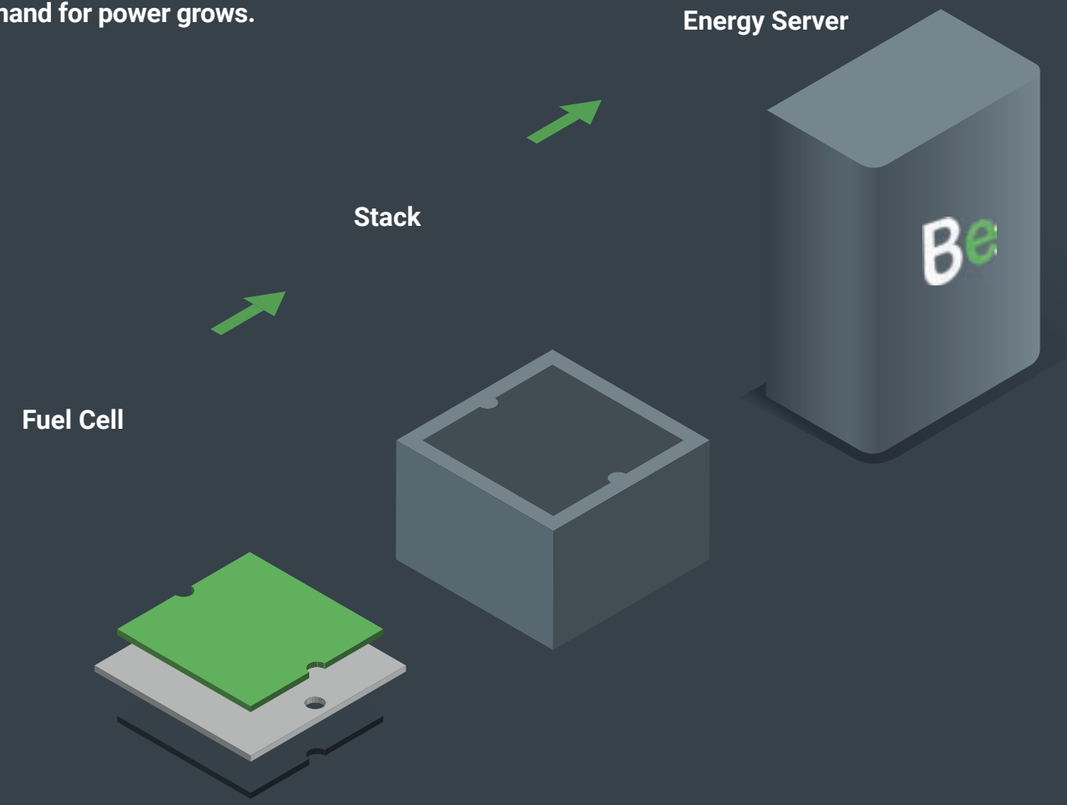


What's in the Bloom Energy Server

Our Energy Server is an onsite power generation platform that delivers highly reliable, uninterrupted 24x7 power. The basic building block of our Energy Server is the Solid Oxide Fuel Cell (SOFC).



Each Energy Server is modular and currently composed of independent 50-kilowatt (kW) Power Modules. Modular design allows for any number of Power Modules to be clustered together, in various configurations, to form solutions from hundreds of kilowatts to many tens of megawatts. Our Energy Servers provide significant power in a small footprint, and its modular design allows customers to easily scale the solution as their business and demand for power grows.



Our Value Proposition

Our value proposition has four key elements that allow us to deliver better energy: resiliency, sustainability, predictability, and adaptability of our platform. We seek to provide a complete and integrated solution, including installation, equipment, service, maintenance and, in limited cases, bundled fuel.

Resiliency

Our Energy Servers avoid the vulnerabilities of conventional transmission and distribution lines by generating power onsite where the energy is consumed. The system operates at very high availability due to its modular and fault-tolerant design. Unlike traditional combustion generation, our Energy Servers can be serviced and maintained without powering down the system. Importantly, our systems utilize the existing 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. Our Energy Servers 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, hospitals, 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.

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 surrounding centralized fossil fueled generators, by producing energy 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 steady-state operation and using very little land as a result of our high-power density.

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 is based solely on individual projects. Moreover, we provide customers with a solution that offers all of the fixed equipment and maintenance costs for the life of the contract.

Adaptability

Our Energy Servers are designed as a platform that can be customized to deliver a superior level of reliability, resiliency, sustainability, and predictability. Our platform runs on natural gas, biogas, and hydrogen blends, with a near-term commitment to run on scalable and cost-effective 100% hydrogen solutions and other zero emission power options of the future. Our flexible and modular platform approach provides a pathway to upgrade existing systems to align with the sustainability goals of our customers over time. 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 adaptable and convenient access to power.

Our Strategy

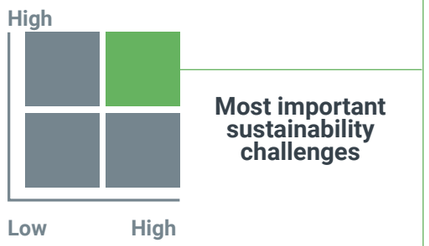
Our development is one of humble beginnings. Dr. KR Sridhar and other founders began developing clean technology before that term was coined, and they worked over many years to bring the benefits of clean, resilient, and distributed energy to organizations. Honoring these humble beginnings, we have begun our sustainability journey the same way: identifying the most pressing concerns related to our business and addressing them on an increasingly larger scale. As we did with our innovative technology, we will invest, test, and expand our sustainability efforts in ways that not only change us, but also the world.

Materiality

In Summer 2020, we conducted our initial materiality self-assessment to identify the top ESG risks and opportunities related to our business and operations. Materiality was analyzed from two perspectives: the potential of an issue to positively or negatively impact organizational growth, cost, or trust; and the importance of the issue to our stakeholders. The issues analyzed for materiality were selected by the internal team from a known universe of key ESG considerations identified from investor feedback, media prevalence, survey results, and market trends.

Our Priorities

Each issue addressed is important to us. We used the results of our materiality assessment as an initial basis against which to align the prioritization of our ESG programming. This table represents the top quartile of priorities to us and to our stakeholders, with corporate financial viability and climate action/decarbonization being the top two issues.



* From the time our self-assessment was completed in Q2 to the end of Q4 2020, climate-related extreme weather events drove an increase in both the business and stakeholder significance of Community and Business Resilience issues. These events included a record fire season in California and heat-driven grid instability through the Western US. Its new position is now reflected in the matrix to the right.

Our Process

01 We identify our stakeholders to review our business and priorities from all perspectives.

Stakeholders include:

- Customers
- Investors
- Employees
- Policymakers
- Media
- Non-governmental organizations
- Communities
- Suppliers

02 We engage with stakeholders in a variety of ways to better understand their interests in our business.

We engage with stakeholders through dialogue, surveys, industry groups, consultants, conferences, and employee teams.

03 We assess each topic based on significance to the business and stakeholders.

We use a model of weighted importance to help narrow down the list of topics and to support our efforts in prioritizing significance.

04 We develop our business and product strategy to have the greatest impact.

This exercise allows us to determine where to create programs for change and where there are opportunities for our technology to have a broader impact.

Green Finance Program

While the results of our first materiality self-assessment were illuminating, they also revealed opportunities, notably the ability to address our top ESG priorities through the launch of a green finance program. In September 2020 we issued the $230.0 million aggregate principal amount of our 2.50% Green Convertible Senior Notes due 2025 (the "Green Notes"), upsized from its original amount due to investor interest. The Green Notes allowed us the ability to refinance high interest maturing debt. The investment framework reinforced our commitment to decarbonization by directing proceeds toward renewable energy projects and microgrid componentry, along with research and development across our five levers of growth detailed in the Innovation Section. The Green Notes were aligned with the International Capital Market Association's Green Bond Principles (GBP), and a positive second party opinion was provided by Sustainalytics. We now have an annual obligation to report on use of proceeds and enabled impact across the investment framework, and we are pleased to provide our first report below, also reviewed by Sustainalytics.

Management Framework

Under the Green Notes, we are expected to use an amount equal to the net proceeds of the notes to refinance or finance, in whole or in part, new or ongoing projects that meet the eligibility criteria described in the chart below. Disbursements can cover project expenditures made during the two years preceding the September 2020 issue date and up to and including the 2025 maturity date of the Green Notes. We aim for the Green Notes to support the achievement of the United Nations Sustainable Development Goals (SDGs) noted below.

SUSTAINABLE DEVELOPMENT GOALS

There are 17 United Nations Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth - all while tackling climate change and working to preserve our oceans and forests.

ASSURANCE: SUSTAINALYTICS a Morningstar company

Green Notes Management Framework

Use of Proceeds

Excluded from Proceeds

Natural Gas

Specifically excluded from the Use of Proceeds are research and development (R&D), manufacturing, and fuel cell stack replacement activities related to natural gas applications. An exception to the R&D exclusion is R&D for carbon capture applications in order to enable BECCS projects.

GBP Eligible Project Category	Eligibility Criteria and Example Projects	Environmental Benefit	SDG Alignment
Renewable Energy	Expenditures related to the manufacturing, construction, development, acquisition, maintenance, and operation of Bloom's renewable energy projects including biogas, hydrogen, and bioenergy to carbon capture (BECCS) applications.	Energy Servers running on renewable biogas or hydrogen emit no greenhouse gases (GHG) with continued air quality, water, resilience, and land use benefits. BECCS projects may be carbon-negative with carbon removal. Electrolyzing hydrogen from water using excess renewable generation creates a valuable form of renewable energy storage, which further enables wind and solar capacity and integration. Green hydrogen can also be used as renewable fuel in transport applications, displacing fossil alternatives, and can help reduce emissions in other hard-to-decarbonize sectors like buildings.	7 AFFORDABLE AND CLEAN ENERGY
Energy Efficiency	Expenditures related to energy efficiency projects, including expenditures related to the replacement of fuel cell stacks for Energy Servers running on biogas or hydrogen and those transitioning into full hydrogen compatibility.	Stack replacement improves efficiency for existing customers as fuel cells degrade over time, and lets them upgrade to full hydrogen compatibility.	7 AFFORDABLE AND CLEAN ENERGY
Climate Change Adaptation	Expenditures related to manufacturing, construction, research, development, maintenance, and operation of microgrid specific componentry.	Enables energy independence for critical community and business infrastructure threatened by climate-related grid instability. Bloom microgrids can also replace diesel backup generation, reducing GHG and air pollution.	13 CLIMATE ACTION
Sustainable Water and Wastewater Management	Expenditures related to water efficiency projects and wastewater management including efficiency in water management of electrolyzer and fuel cell systems.	Bloom's electrolyzer technology enables efficient water use during the process of electrolysis.	6 CLEAN WATER AND SANITATION
Pollution Prevention and Control	Expenditures related to reduction of air emissions, greenhouse gas control, soil remediation, waste prevention reduction, and recycling, and energy/emission-efficient waste to energy projects such as product end-of-life recycling.	Enables reuse and recycling of 98% of Energy Server components.	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Green Buildings	Expenditures related to new construction, upgrades, and buildout of properties that have received or are expected to receive LEED Gold or Platinum, BREEAM Very Good, Excellent or Outstanding, or Energy Star certifications.	Reduces impact from corporate building and manufacturing footprint.	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
Clean and Mass Transportation	Expenditures related to electric vehicle (EV) or hydrogen charging infrastructure, including the manufacture and development of Energy Servers with EV charging capability, EV charging componentry, and electrolyzers to generate renewable hydrogen fuel for transport applications.	Energy Servers natively produce DC power and can be configured to serve as resilient and low-carbon charging infrastructure for fleets and vehicles. Electrolyzers can generate renewable hydrogen fuel for use in zero-carbon land, ship, and air-based transportation applications.	11 SUSTAINABLE CITIES AND COMMUNITIES

Evaluation

We have multiple budgeting and project evaluation processes established which we have extended to support our green notes approval process. We have a capital review committee that reviews large expenditures as well as quarterly, annual, and multi-year budgeting cycles that serve as an approval platform for access to proceeds generated by our Green Notes. Final approval will be made jointly by our Treasurer and our Chief Financial Officer.

Fund Tracking

We have established an internal tracking system to monitor and account for the proceeds. Pending allocation of an amount equal to the net proceeds to eligible projects, proceeds will be invested in cash, cash equivalents, or liquid securities in accordance with our investment policy. As proceeds are allocated to the Green Notes, the amount of proceeds invested in cash or liquid securities will be reduced accordingly. In the case of divestment or if a project no longer meets the eligibility criteria, the funds will be reallocated to other eligible projects. Payment of principal and interest will be made from our general account and not be linked to the performance of the eligible projects.

Reporting

Annually, until all the proceeds have been allocated, we will publish a Green Notes Report within this Sustainability Report that will include (i) the amount of net proceeds allocated to each Eligible Project Category, (ii) expected impact metrics that may include carbon dioxide equivalent (CO_2e) emissions avoided, criteria pollutant emissions avoided, and water savings, where feasible, (iii) a selection of brief project descriptions, and (iv) the outstanding amount of net proceeds yet to be allocated to projects at the end of the reporting period.

2020 Annual Progress Report

Note Details		
Issuer	Bloom Energy Corp.	
Issue Date	8/11/20	
Currency	USD	
Tenor	5 year	
Issued Amount	$230 million	
CUSIP	093712107	
ISIN	US0937121079	
Use of Proceeds	US Dollar value	Allocated Percentage of Note to Date
Amount disbursed to eligible projects	$62,900,000	27%

Impact

Use of Proceeds Category	Projects	Environmental Impacts Reported
Renewable Energy	Biogas Project Development	Bloom is still in the process of measuring the environmental impact of the projects in this category.
	Hydrogen R&D	
	Electrolyzer R&D	
Climate Change Adaptation	Microgrid Componentry	Bloom's microgrid systems facilitate customer's energy needs during grid outages. Events where a Bloom microgrid supplies power to a customer during a grid outage is called a "ride-through" event. Since August 11, 2018, Bloom's microgrids have facilitated 115 ride-through events for customers, carrying a total of 6,558,428 kWh of energy demand over 13,823 minutes of grid outages.
	Microgrid R&D	
Pollution Prevention and Control	End of Life Recycling Activity	• 98% of products by weight that are sold are either recyclable or reusable. • 1,433.6 metric tonnes (MT) of end-of-life material recovered and landfill avoided as of 2020.
Green Buildings	LEED Gold Certified Headquarters	• Bloom's headquarters were moved to a Level Gold LEED certified building in Q3 2018. By occupying a LEED certified building, the following measurable environmental effects have resulted[1]: – The building is reducing its indoor potable water use by at least 40% compared to baseline building. – Irrigation and outdoor water uses are reducing potable water use by at least 50% compared to similar landscaped area. – Core and Shell building is reducing its energy consumption by 28% compared to similar baseline building. – The project was able to divert at least 75% of its construction and demolition waste from the landfill during the construction phase. – At least 20% of the buildings material (by cost) were sourced from recycled content. – At least 20% of the building materials (by cost) were harvested and manufactured within 500 miles of the project site. – 90% or more of the floor areas have direct line of sight to the outdoors. – 75% or more of the floor plan has at least 25 foot-candles of daylight during typical occupancy hours.

[1] Per LEED scorecard for Headquarters building https://www.usgbc.org/projects/237-first-street-building-1-0?view=scorecard

Climate Related Risks and Opportunities

We take climate change risk seriously. While our products and technologies can help customers adapt to climate risks, we understand that our business is subject to those same risks.
We expect climate considerations to drive fundamental shifts in the energy industry for years to come. We identify business risks in our Annual Report on Form 10-K, but in response to TCFD recommendations we identify in this section climate-related risks, opportunities, and management responses across four dimensions: market and technology shifts, reputation, policy and legal, and physical. We will continue to evaluate and formalize responses to risks as they arise from our emerging ESG management structure detailed later in the Governance section.

Market & Technology Shifts

RISKS

Acceleration of renewable energy procurement goals may occur.

IMPACT OF RISKS ON BUSINESS STRATEGY & FINANCIAL PLANNING

The impact of natural gas-based customer risk may require us to provide a greater volume of renewable fuel options to our customer base with additional cost and shorter deadlines.

Alternatively, we may need to develop a commercial offer for fuel cell stack upgrades to full hydrogen compatibility, which will require R&D spend and the development of formalized contractual and commercial commitments.

MANAGEMENT ACTIONS IN RESPONSE

We have announced our intention to diversify our customer base and product offerings, including through several high-profile commercial partnerships. Our offerings are expanding strategically across our growth levers, including zero-carbon, renewable and carbon negative power, and transportation solutions. Read more about those innovations in the Innovation section.

In further response to the risk, our Green Notes, detailed above, are dedicated to R&D and commercial development of renewable solutions with no application of the proceeds toward natural gas-based projects.

OPPORTUNITIES

Increased customer interest in delivery of reliable, resilient, renewable, and/or zero-carbon baseload power creates opportunities for our five growth lever offerings and expands market opportunities to new utility scale applications.

The focus on rapid decarbonization in the transportation sector expands market opportunities into transportation fuel, including electricity and hydrogen.

IMPACT OF OPPORTUNITIES ON BUSINESS STRATEGY & FINANCIAL PLANNING

We will need to develop in-house product development, engineering, and commercial expertise across a range of new applications. We will also need to develop new partnerships, including new utility partnerships, to help position and test new technology and business models.

MANAGEMENT ACTIONS IN RESPONSE

We're exploring an expanded partnership network and bringing on new management, including new Executive Vice President of International Business Development, Azeez Mohammed, to explore international growth opportunities in EMEA and APAC.

Reputation

RISKS

As the energy transition intensifies, industry, non-governmental organizations (NGOs), and policymakers may develop opposing viewpoints. Our unique position in the value chain may require us to differentiate our goals and policy priorities.

IMPACT OF RISKS ON BUSINESS STRATEGY & FINANCIAL PLANNING

We are positioned at the intersection of adaptation and mitigation responses to climate change, which requires us to take a nuanced and data-driven approach to impact and associated commercial development. Efficiently communicating energy system impact to stakeholders will require staff with experience modelling and communicating energy innovation.

MANAGEMENT ACTIONS IN RESPONSE

In response, we have brought on two new senior leaders in our Marketing function: a new Executive Vice President and Chief Marketing Officer, Sharelynn Moore, and Vice President of Marketing Communications, Lisa Magnuson, both of whom have significant energy and utility industry experience. We have also welcomed Carl Guardino as our Executive Vice President of Government Affairs and Policy who has championed public policy at the local, state, and federal level for more than three decades for Silicon Valley's most respected companies.

OPPORTUNITIES

Our decarbonized product portfolio and the new application of existing technology in sectors like maritime are critical to global decarbonization efforts, signaling enhanced competitiveness long-term and positioning us as a thought leader on critical resilience and mitigation efforts.

Emergency response to extreme weather events also holds the potential to deliver policy and community stakeholder recognition.

IMPACT OF OPPORTUNITIES ON BUSINESS STRATEGY & FINANCIAL PLANNING

The ESG Committee and management team recognize the benefit of having a platform from which to communicate impact, driving management support and resource allocation associated with developing our disclosure.

We have identified community development resources and staffing needs that will become part of our outreach efforts more programmatically, following recognition from a broad stakeholder set of our COVID-19 and disaster response efforts in 2020.

MANAGEMENT ACTIONS IN RESPONSE

Productizing emergency response has been an outgrowth of several of our extreme weather and COVID-19-driven responses, including further innovation of our skid mounted quick deploy solutions for field hospitals and disaster recovery. These have become dedicated product development efforts and a potential portion of our resilience offering moving forward.

Policy & Legal

RISKS

In some jurisdictions, local utility companies or the municipality have denied our request for utility service connection or have required us to alter the operating profile of certain projects. This includes restrictions to natural gas system interconnection.

We may be subject to a heightened risk of regulation and a potential loss of certain enabling incentives.

Our projects may also become subject to carbon pricing.

IMPACT OF RISKS ON BUSINESS STRATEGY & FINANCIAL PLANNING

Loss of gas access or enabling incentives may prevent us from offering services to certain customer segments in certain regions.

MANAGEMENT ACTIONS IN RESPONSE

We have created a dedicated cross-functional team to study the business impact of natural gas access in order to inform policy strategy.

We have prioritized biogas project development as a means of accessing renewable fuels that might help reduce carbon pricing exposure in the near-term.

OPPORTUNITIES

Blending of renewable hydrogen into the natural gas infrastructure is being tested actively by a number of gas utilities domestically, which offers opportunity for large scale hydrogen offtake from our emerging electrolysis business and helps decarbonize fuel cell projects in our traditional commercial and industrial customer bases.

We expect new and revised incentives for carbon capture utilization and storage (CCUS) and hydrogen projects with market moving potential to be forthcoming.

IMPACT OF OPPORTUNITIES ON BUSINESS STRATEGY & FINANCIAL PLANNING

These opportunities drive policy engagement and a newly defined suite of NGO and industry partnerships critical to advancing new incentives.

As a growth equity, our valuation is responsive to investor interest in our competitiveness in the emergent hydrogen economy.

MANAGEMENT ACTIONS IN RESPONSE

Our Product, Engineering, and Business Development teams are adding headcount with specific hydrogen expertise.

We and Southern California Gas Company have signed a letter of intent to collaborate on hydrogen blending projects.

Physical Risks

RISKS

We rely on a limited number of third-party suppliers for some of the raw materials and components for our Energy Servers. Our supply chain could be disrupted by severe weather events.

IMPACT OF RISKS ON BUSINESS STRATEGY & FINANCIAL PLANNING

If our supply chain is disrupted by climate-driven severe weather, our suppliers may not be able to provide sufficient inventory at the level of quality required to meet customer demand.

MANAGEMENT ACTIONS IN RESPONSE

We have created an internal Sourcing Council designed to mitigate business continuity risk and minimize compliance exposure.

We have taken steps over the last several years to diversify our supplier base. Read more about these important initiatives in the Environment section.

OPPORTUNITIES

Climate-driven severe weather (including wildfires and other extreme events in California and Texas as well as increased hurricane intensity and frequency on the East Coast) will continue to intensify, straining grid operations and incentivizing resilient power solutions like our microgrids.

IMPACT OF OPPORTUNITIES ON BUSINESS STRATEGY & FINANCIAL PLANNING

We will need to continue to invest in our microgrid offerings and increase the variety of resiliency options made available to customers.

MANAGEMENT ACTIONS IN RESPONSE

Already identified as a leader in microgrid deployments with more than 100 projects installed to date, we are further investing in our microgrid capabilities and investigating utility partnership models for public safety power shutoff (PSPS) mitigation.

We have developed skid mounted quick deploy microgrid solutions, deployable in as few as 3 days. These units are removable to provide more flexibility to corporate tenants.

Looking Forward

Looking to 2021 and beyond, our newly formed ESG Committee will work with the Bloom Sustainability and EH&S Teams to conduct enhanced materiality assessments with external stakeholders. We also plan to expand our GRI reporting and provide CDP reporting as we institutionalize ESG related programming and disclosure.

Innovation

Bloom Energy has been at the forefront of the energy sector since its inception and has been working on offering alternatives to centralized energy generation and delivery for nearly two decades. We believe in the power of flexible and modular solutions that allow consumers to customize the operational and sustainability profile of the power they consume.

Energy is too important for development and security to rely solely on centralized power systems that are vulnerable to systemwide failure and unable to provide tailored solutions for an increasingly complex and digitized world. We see parallels to edge computing in the next phase of growth in the energy system, where distributed solutions and microgrids will be supporting an ever-wider variety of newly electrified processes.

Additionally, we recognize that the need for immediate and ambitious climate action from the energy sector will accelerate transformation, with a focus on zero-carbon and renewable solutions. As the world moves towards decarbonization, our technology is ready to meet the requirements of our customers in alignment with a transformed energy sector that limits climate change to a 2-degree Celsius trajectory.

Bloom's Long History of Innovation

NASA Roots

1960's
As part of the Gemini program, Bloom co-founder Jim McElroy built the first hydrogen fuel cell that flew on NASA space missions in the 60's and 70's

1990's
Dr. KR Sridhar research into Solid Oxide Electrolyzers

2001
NASA Mars Missions – fuel cell to convert carbon dioxide into oxygen for life support and propulsion

2012
Cal Tech/JPL becomes one of Bloom's early customers

2002-2021
Bloom R&D Center at NASA's Moffett Field

2009
Began powering a portion of the NASA Ames facility

Hydrogen Pedigree

1980's
Bloom co-founders pioneered electrolyzers that made hydrogen and oxygen by splitting water for life support systems in submarines

1980-1990's
This same founding team engineered life support systems and electrolyzers for space shuttles, the space station, space suits, and the Mars missions

Early 2000's
19 electrolyzer patents awarded to Bloom

Energy Server Development

2008
First generation Energy Server (ES) delivered with our landmark architecture

2011
ES 2.0 delivered — Eliminating fresh water requirements, with an efficiency boost

2013
ES 2.5 delivered — Including more power on the same platform

2015
ES 5.0 delivered — With an improvement in efficiency and power density

2021
ES 7.5 scheduled for delivery — With another 50% increase in power density and substantial cost reduction

Breakthrough Projects

2006
First field trial unit shipped to the University of Tennessee, Chattanooga

2008
First commercial deployment of Energy Servers at Google

2011
First microgrid deployed with Owens Corning

2013
First datacenter microgrid installed at eBay

2014
First Energy Servers delivered to The Home Depot

2018
Landmark "Power Tower" configuration built in Korea with integrated heat recovery

2019
First onsite biogas-powered solution on a landfill site

2020
First Rapid Deploy microgrid systems

Making Clean Energy Efficient and Affordable

We cannot make clean, reliable energy available to everyone in the world without an intense focus on affordability. The organizational focus during our first phase of growth has been on supply chain reliability, manufacturing capability, service competency, and cost reduction. We have been continuously reducing the cost of delivered electricity to our customers over the last decade and will continue to execute on our cost-reduction strategy as we enter our next phase of organizational growth defined by expansion into new geographies, markets, and applications beyond the North American commercial and industrial space. We achieve lower delivered costs by reducing the costs across our commercial footprint, including costs for production, installation, and operation.

Production Costs

88% Since 1st generation

27% As cumulative production volume doubles
in line or better than other energy technologies such as wind and solar

Power Density
(electric output per unit of land)

LATEST GENERATION ENERGY SERVER	NEXT GENERATION ENERGY SERVER	
5X electricity output of 1st generation at constant footprint	**50%** electricity output of latest generation at constant footprint	Installation costs per kW ↓ as power density ↑

Energy Server Efficiency

27% more efficient on a lifetime average basis than a US natural gas power plant[1]

50% Beginning-of-life from 1st generation

Fuel costs ↓ as efficiency ↑

[1] http://www.eia.gov/electricity/annual/html/epa_08_01.html

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Bloom Energy's Growth Levers

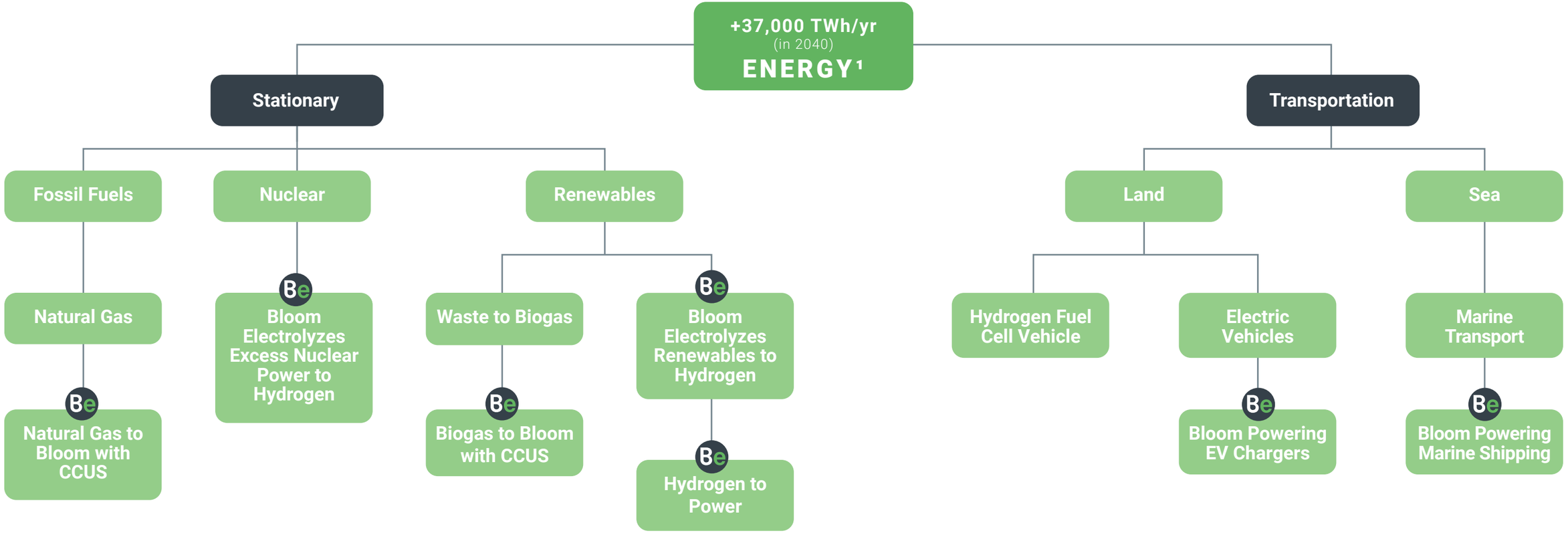
Bloom Energy is focusing its path forward on what we call our five strategic growth levers: biogas; carbon capture utilization and storage; hydrogen fuel cells; hydrogen electrolyzers; and marine applications. As we bring our growth levers model forward, our business opportunities within the energy sector will broaden. In fact, our solutions will be possible across much of the energy generation landscape in both transportation and stationary applications.

	BIOGAS	CARBON CAPTURE UTILIZATION AND STORAGE (CCUS)	HYDROGEN FUEL CELLS 100% hydrogen compatible Solid Oxide Fuel Cells (SOFCs)	HYDROGEN ELECTROLYZERS Hydrogen-producing Solid Oxide Electrolyzer Cells (SOECs)	MARINE
Bloom's Innovation	We have pioneered the cleanup of biogas on which to run our fuel cells, without the need for processing the fuel into pipeline-quality biomethane.	Our fuel cell's non-combustion process already generates a relatively pure stream of CO2 devoid of nitrogen and other impurities that are difficult or expensive to separate. With the introduction of novel carbon separation technology, we are able to isolate a more than 98% pure stream of CO2 that can be used or sequestered.	Our Energy Servers are designed to reform hydrogen from fuel feedstocks in order to catalyze a chemical reaction. Today that is most often achieved through steam methane reformation of natural gas, which also allows the current Energy Server configuration to take up to a 50% blend of natural gas and hydrogen with only 1.5% efficiency loss. Our engineering teams have reconfigured elements of the Energy Servers to allow for use of 100% hydrogen fuel in anticipation of the increasing availability of hydrogen as a fuel feedstock.	Solid oxide technology can function bidirectionally, running in SOFC power production mode to use fuel and air to create power, or in SOEC fuel generation mode to use power and water to generate hydrogen fuel. We are going back to our electrolyzer roots but leveraging our supply chain and service and manufacturing footprint to commercialize SOEC technology capable of generating hydrogen for use across a range of applications in power production and transportation.	We are extending our terrestrial fuel cell business to maritime applications by designing with marine environment variability in mind. This includes ruggedization of our microgrid technology to support marine classification requirements like tilt, roll, pitch, vibration, and safety.

	BIOGAS	CARBON CAPTURE UTILIZATION AND STORAGE (CCUS)	HYDROGEN FUEL CELLS 100% hydrogen compatible Solid Oxide Fuel Cells (SOFCs)	HYDROGEN ELECTROLYZERS Hydrogen-producing Solid Oxide Electrolyzer Cells (SOECs)	MARINE
Sustainability Impact	Onsite biogas use avoids the release or flaring of harmful methane emissions. When used as a fuel it has a similar direct emission profile as natural gas but a lower, and potentially even negative, lifecycle carbon intensity. Bloom's Energy Servers can provide an alternative to onsite combustion engines, helping vulnerable communities.	CCUS partially or fully mitigates emissions from natural gas depending on sequestration or utilization dynamics. If paired with biogas in bioenergy to carbon capture (BECCS) projects, carbon removals are achieved. Carbon utilization projects support growth of the circular economy, creating opportunities for new supply chains and business models to form around the transformation of a pollutant into a useful product input.	Using hydrogen as a fuel feedstock can eliminate carbon emissions from the fuel cells. In order to achieve lifecycle carbon reductions, hydrogen creation needs to be achieved through pathways like Steam Methane Reformation (SMR) with carbon capture (blue hydrogen), electrolysis powered by nuclear sources (pink hydrogen), electrolysis powered by renewables like wind or solar (green hydrogen), or biogas SMR with carbon capture (carbon negative gold hydrogen).	SOEC could solve balancing and seasonal integration issues for zero-carbon power sources in need of long duration and flexible storage. SOEC offers more sustainable hydrogen generation pathways, enabling scalability for renewables and lifetime extensions for nuclear operators.	Initial deployments are expected to use liquified natural gas (LNG) as the primary fuel source with medium term opportunities to transition to hydrogen. Our maritime projects will displace the use of heavy fuel oils, which will create substantial health and environmental benefits, including for already vulnerable port communities.
Applications	Municipal solid waste, municipal and agricultural wastewater, animal and agricultural waste.	Utilization: Concrete building materials, alternative fuels, chemicals and plastics, beverage, aquaculture, enhanced oil recovery. Sequestration: Depleted oil & gas reservoirs, geologic formations, coal bed formations, and soil amendments.	Any facility with the ability to store hydrogen for onsite use or to receive it through pipeline injection or dedicated pipeline infrastructure. Examples include oil and gas installations, chemical production, marine or aerospace applications.	Power: Utility scale renewable or nuclear projects, commercial and industrial (C&I) customers with excess solar capacity, natural gas utility offtake. Transportation: Fueling stations, C&I distribution centers, marine fueling infrastructure.	Hotel loads, propulsion loads, and shore power for LNG tankers, cruise ships, cargo vessels, or ferries.

	BIOGAS	CARBON CAPTURE UTILIZATION AND STORAGE (CCUS)	HYDROGEN FUEL CELLS 100% hydrogen compatible Solid Oxide Fuel Cells (SOFCs)	HYDROGEN ELECTROLYZERS Hydrogen-producing Solid Oxide Electrolyzer Cells (SOECs)	MARINE
Projects	Learn more about our biogas projects in the Community section.	Early carbon capture prototype currently in testing. Anticipated commercialization is 2022.	In July 2020, we announced our entry into the commercial hydrogen market by introducing hydrogen-powered fuel cells and electrolyzers that produce renewable hydrogen. These products will be first introduced to the South Korean market in 2021 through an expanded partnership with SK Engineering and Construction (SK E&C), an affiliate of SK Group. In November 2020, Bloom and SK E&C won a competitive bid for Korea's Changwon RE100 project to supply 100% hydrogen-powered fuel cells and electrolyzers. Bloom Energy will supply 1.8 megawatts of hydrogen-powered fuel cells through a multi-stage deployment from late 2021 into 2022. The fuel cells will be the cornerstone of a microgrid that also includes onsite solar and battery storage. Southern California Gas Company and Bloom have signed a letter of intent to collaborate on electrolyzer pilot projects in 2021 as the gas utility contemplates hydrogen integration moving forward.	In June 2020, Bloom and Samsung Heavy Industries announced a joint development agreement to design and develop fuel cell-powered ships. Initial designs are anticipated to be presented in 2022.

As we bring our growth levers forward, our business opportunities within the energy sector will broaden. In fact, our solutions will be possible across much of the energy generation landscape in both transportation and stationary applications.



Energy Transformation

Hydrogen will be a critical foundation of the energy industry of the future, a clean alternative to 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 especially attractive for those interested in a zero-carbon energy mix. Predictable round-the-clock hydrogen power will be an invaluable resource as more grids go zero-carbon. 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 electricity sectors transition to a zero-carbon future, there will be increasing demand for technologies that can efficiently generate power using hydrogen and for large-scale electrolysis or carbon capture technology that can produce hydrogen at scale.

[1] https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2018/Apr/IRENA_Report_GET_2018.pdf

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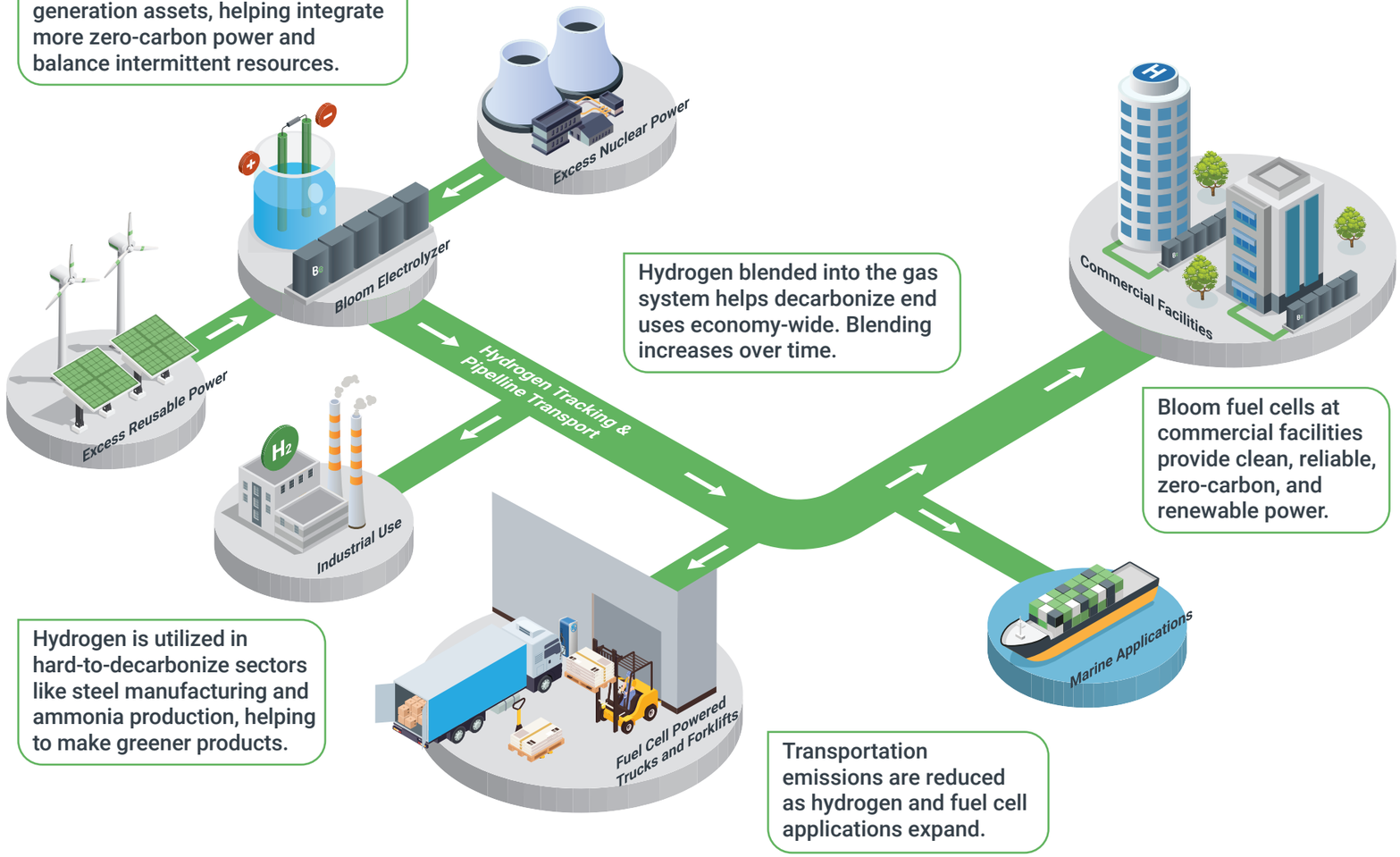
Decarbonization with H_2

Bloom electrolyzers produce hydrogen from underutilized power generation assets, helping integrate more zero-carbon power and balance intermittent resources.



Hydrogen blended into the gas system helps decarbonize end uses economy-wide. Blending increases over time.

Bloom fuel cells at commercial facilities provide clean, reliable, zero-carbon, and renewable power.

Hydrogen is utilized in hard-to-decarbonize sectors like steel manufacturing and ammonia production, helping to make greener products.

Transportation emissions are reduced as hydrogen and fuel cell applications expand.

Hydrogen Coalitions

Bloom Energy is a founding member of Hydrogen Forward, a joint initiative of companies and organizations across the full hydrogen value chain, committed to advancing hydrogen for a cleaner, stronger U.S. economy and to ensure hydrogen is a contributing solution in decarbonizing the energy sector. Like our coalition members, we believe that accelerating investment in hydrogen will help the U.S. deliver on its climate goals while creating a stronger economy with new, good-paying jobs. The coalition works in concert with allies across industries and sectors to educate decisionmakers and other stakeholders on the value hydrogen delivers today and the important role that it should play in our future. We believe that a comprehensive national hydrogen strategy is critical because it would enable a rapid scale-up of low- or no-carbon, domestically produced hydrogen technologies.

We are also a member of the following hydrogen coalitions:

- **Green Hydrogen Coalition**
  Focused on advancing green hydrogen adoption at scale to accelerate the transition to a carbon-free energy system
- **California Hydrogen Business Council**
  A leading advocate for advancing hydrogen and fuel cell work across organizations and academia
- **National Fuel Cell Research Center**
  Facilitating and accelerating the development and deployment of fuel cell technology and systems
- **Fuel Cell & Hydrogen Energy Association**
  The national trade association for the fuel cell and hydrogen industry representing nearly 50 leading companies.

Continuing Innovation in our Core Business

Bloom continues to innovate within its core fuel cell business by pressing the boundaries of size, regional scope, and installation complexity including:

SK E&C KOREA

In September 2020, we and SK E&C announced two new clean energy facilities powered by 28 MW of power through Bloom Energy's fuel cells. Designed to generate power to 62,000 households in Hwasong and Paju, the deployment also supplies Paju residents in rural areas with natural gas via new city pipelines for the first time. The Hwasong deployment represents the largest Bloom Energy project in South Korea to date and our second largest in the world.

ONE WORLD TRADE CENTER

In December 2020, the Port Authority of New York and New Jersey announced it will deploy a 1.2 MW installation of our Energy Servers at the iconic One World Trade Center to advance the agency's commitment to the Paris Climate Agreement. This marks our first indoor installation, exemplifying the flexibility of our Energy Servers to be deployed in a variety of environments.

Financial Innovation

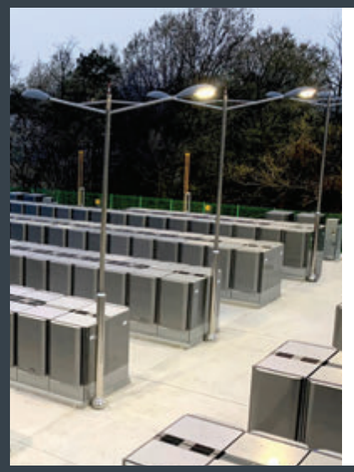
While we believe our technology can change the world, we also recognize that our financial innovation is just as critical. Since commercializing its technology, Bloom has raised close to $4 billion in third-party financing from marquee investors like Southern Company, Duke Energy, Exelon, Wells Fargo, Key Bank, and Bank of America. In just the last five years, Bloom has been able to drive down the cost of its financing by nearly 15%.

Bloom is also the first and only onsite energy provider that can offer very short-term financed energy contracts (five to six years). This innovation has allowed Bloom to cater to a much wider range of customers who are averse to or wouldn't qualify for long-term (10 – 25 year) power contracts, the norm in renewable energy.

Finally, our innovative financing has allowed us to begin deploying more than 40 MW in the Northeast U.S. through a series of agreements under a Community Distributed Generation ("CDG") model that provides clean, resilient, and affordable power to small businesses and residential customers.

The Power of Partners

Outside of the United States, the Republic of Korea is a world leader in the use of fuel cells for utility-scale electric power generation, with approximately 550 MW deployed. We entered the market with an 8.35 MW Energy Server for a Korean utility that began commercial operation in 2018, and the Republic of Korea now represents our second-largest market with more than 200 MW of Energy Servers booked. SK E&C serves as Bloom's primary partner, and the partnership established a light-assembly facility in Gumi, Korea to supply SOFCs to the Korean market and develop a fuel cell supplier ecosystem under a joint venture agreement.



SK 건설

Alignment with a Net-Zero Scenario

Our innovations have set us on a path to achieve not only meaningful carbon reductions within our own operations, but also decarbonization of the energy and transportation sectors. To evaluate whether our growth levers are aligned with net zero emissions by 2050, we looked at the International Energy Agency (IEA)'s Stated Policies and Sustainable Development Scenarios and the underlying Intergovernmental Panel on Climate Change (IPCC) models to understand global research on the transition to decarbonized energy and compare it to the viability and timing of Bloom's developing offers.

The IPCC models require substantial growth of wind and solar by 2030 as well as continued use of nuclear power, all of which will need to be properly balanced and integrated into a transformed grid, placing a premium on flexible, long-duration storage. Additionally, the models suggest significant amounts of carbon capture and bioenergy to carbon capture (BECCS) will be necessary. Transportation sector models necessitate a transition to alternative fuels for shipping applications. The IPCC models indicate near and medium-term use of biofuels and longer-term use of hydrogen both in power and transportation.

Below is a breakdown of the two prevailing IEA World Outlook Model Scenarios against which we have mapped our prospective development in order to test the resilience of our strategy at a high level.

IEA World Outlook Model – Scenario Analysis

	Stated Policies Scenario	Sustainable Development Scenario
Definitions	Existing policies and recently announced commitments and plans, including those yet to be formally adopted, are implemented in a cautious manner.	Builds off of the Stated Policies Scenario and provides an integrated scenario for ensuring universal access to affordable, reliable, sustainable, and modern energy services by 2030; substantially reducing air pollution; and taking effective action to combat climate change.
Objectives	To provide a benchmark to assess the potential achievements (and limitations) of recent developments in energy and climate policy.	To demonstrate a plausible path to concurrently achieve universal energy access, meet the objectives of the Paris Agreement on climate change, and significantly reduce air pollution.

	Stated Policies Scenario	Sustainable Development Scenario
Key Assumptions	• Pandemic under control in 2021. • Renewables meet 90% of the growth in energy demand, setting new records for deployment each year through to 2030. • Solar photovoltaic (PV) capacity grows by an average of 12% per year to 2030. • New oil and gas projects are low cost and low emission. For some oil and gas players, this could be accompanied by efforts to develop emission-free hydrocarbons, which would involve investing in areas like low-carbon hydrogen, biofuels, or carbon capture utilization and storage (CCUS) technologies. • U.S.: Expect announcements by states and utilities to raise renewable portfolio standards, including 100% zero-carbon electricity targets. • U.S.: Electricity rises to 24% of total energy consumption by 2040. • EU: Partial implementation of Green New Deal. • EU: Power, industry, aviation carbon price of $34 in 2025 and $52 in 2040.	• To demonstrate a plausible path to concurrently achieve universal energy access, meet the objectives of the Paris Agreement on climate change, and significantly reduce air pollution. Near term surge in renewable investment by 2030. • Existing fossil fuel assets retrofitted. • Low carbon fuels brought forward along with increased electrification. • Carbon removals, including from BECCS. • Advanced Economies: carbon price of $63 in 2025 and $140 in 2040. • Substantial investments by grid operators to maintain reliability. • U.S.: Policies promoting production and use of alternative fuels and associated technologies such as hydrogen, biomethane, and CCUS across sectors. • U.S.: State-level and company targets for net-zero GHG emissions by 2050. • EU: Full implementation of Green New Deal. • EU: Hydrogen strategy for climate neutral Europe.
Bloom Strategic Alignment	• This scenario is consistent with our current commercial strategy and product development roadmap. • We will need to continue to quickly commercialize offerings across our growth levers, especially renewable hydrogen and CCUS opportunities. • We would expect to see changing voluntary preferences from leading U.S. C&I customers and a shift in the international policy landscape beneficial to clean and efficient non-combustion technologies like fuel cells. • We would expect to see policy intervention and carbon pricing designed to incentivize renewable generation, at levels consistent with the pace of the company's current transformation.	• This scenario represents a more aggressive energy sector transformation. • It offers more opportunity across our decarbonized product portfolio at a faster pace. • Our domestic C&I business could be challenged by the pace of transformation resulting from more aggressive policy intervention and carbon pricing. • Additionally, the aggressiveness of renewable penetration in this scenario should be expected to stress grid operation to the benefit of our distributed microgrid offerings.

Environment

Bloom Energy solutions uniquely address both the causes and consequences of climate change. Our products lower greenhouse gas (GHG) emissions by displacing less efficient centralized power generation alternatives, often combustion-based power producers with substantial watershed and air quality impacts for the vulnerable communities that typically surround them. Our microgrid deployments provide critical resilience from grid instability driven increasingly by climate-related extreme weather events, and our products achieve this while using no water during operation and at very high-power density, which optimizes land use.

Our commitment to sustainability is reflected not only through the impacts of our products in operation but also through the impacts of our manufacturing processes and other operations. We are committed to resource efficiency, responsible design, materials management, and recycling. We endeavor to consistently increase our supply chain responsibility and manage our product end of life so that we're able to operate in ways that create long-term societal value.

Greenhouse Gas Emissions

We are reporting our GHG emissions utilizing the operational control boundary per the World Resource Institute's GHG Protocol. We sell our Energy Servers in the U.S. under several deal structures, often with the involvement of a third-party investor, but in all cases, we maintain operational control of the Energy Servers in the field. Emissions from the operations of manufactured products would typically be Scope 3 to a manufacturer, but we have chosen the operational control boundary as the most transparent GHG accounting method, which ensures emissions responsibility is not shifted to financial institutions that might be less familiar with emissions accounting related to their investment portfolios.

The environmental consulting firm Ramboll Consulting Inc. (Ramboll) prepared our GHG inventory using methodology aligned with SASB's October 2018 Standards and World Resource Institute (WRI) and World Business Council for Sustainable Development (WBCSD) GHG Protocol. The GHG Inventory includes Bloom's Scope 1 and Scope 2 emissions from 2020 operations. Bloom uses the operational control approach to set the organizational boundaries for inventory reporting, in which 100% of the GHG emissions for assets controlled/managed by Bloom are accounted for. The GHG inventory calculation approach is based on national and international standards from the GHG Protocol Corporate Standard, GHG Protocol Scope 2 Guidance, and the EPA Center for Corporate Climate Leadership Greenhouse Gas Inventory Guidance. In addition, Ramboll conducted a review of Bloom's marginal emissions displacement methodology and confirmed that Bloom's approach was developed in accordance with WRI's Guidelines for Quantifying GHG Reductions from Grid-Connected Electricity Projects.

We are disclosing our gross global Scope 1 and Scope 2 GHG emissions to the atmosphere of the seven GHGs covered in the Kyoto Protocol. Emissions of all GHGs are consolidated, disclosed in metric tons of carbon dioxide equivalents (CO2e), and calculated in accordance with published 100-year time horizon global warming potential values.

2020 Gross Global Scope 1 Emissions

Includes emissions from all Bloom Energy Servers in operation globally and from the company's vehicles, facility operations, and test equipment

1,210,004 Metric Tonnes CO2e

2020 Gross Global Equipment Emissions Impact Vs. Grid Alternatives

Based on Energy Server emissions displacement as compared to regionally specific average non-baseload and operating margin grid emissions rates as a proxy for marginal emissions

-438,695 Metric Tonnes CO2e

Region	Percentage Impact vs. Grid
USA[1]	-22.67%
Korea[2]	-47.89%
India[3]	-53.05%
Japan[4]	-34.76%
Global Weighted Average	-26.75%

Each Energy Server deployment displaces power supply to our customers from an alternative source, typically centralized power grids. Therefore, establishing the full climate impact of our equipment requires comparing our emissions to the emissions from displaced grid alternatives. As an efficient distributed energy resource, when a new Bloom Energy Server is brought online, it reduces the amount of power required from energy sources that generate "on the margin" – meaning those units that are operating to meet the last unit of energy demand. Since our Energy Servers' carbon intensity is typically lower than the displaced (generally fossil-powered) alternatives, the net impact is measurable emissions reductions. Bloom's total weighted average emissions performance relative to grid alternatives detailed above will change over time as both Bloom and grids evolve.

[1] https://www.epa.gov/egrid/download-data

[2] https://www.iges.or.jp/en/pub/list-grid-emission-factor/en

[3] https://www.osakagas.co.jp/csr_e/charter02/co2.html

[4] https://cea.nic.in/cdm-co2-baseline-database/?lang=en

Energy Management

We are focused on energy efficiency in our production and administrative processes, and have introduced a significant amount of energy-efficient plant automation over the last several years. For example, our plants in California have installed variable frequency drive fans in our exhaust systems in order to maintain exhaust pressures with minimum energy. These plants have also upgraded all lighting to energy-efficient LEDs with automatic shutoff in the office areas. Additionally, all new plant equipment will be specified at 480 volts AC power to maximize power efficiency.

Our own Energy Servers power our facilities, where suitable, as efficient and resilient energy sources. Since our facility footprint is a mix of owned and leased assets with varying electric load profiles, Bloom Energy Servers are not an ideal solution for every facility. They are, however, installed at our primary manufacturing facilities in California and Delaware.

We also use our Energy Servers to charge employee vehicles at manufacturing facility locations, and as we broaden the integration of our Energy Servers across our real estate portfolio, we will continue to support our employees with lower carbon intensity and resilient onsite electric vehicle (EV) charging.

2020 Total Energy Consumed (GJ)

Includes Scope 2 energy consumption from Bloom facilities in California, Delaware, South Korea, and India. Estimates in shared facilities where necessary.

74,210.60 GJ

Scope 2 Location-Based Indirect Emissions from Purchased Energy (MT CO2e)

5,022 MT

Scope 2 Market-Based Indirect Emissions from Purchased Energy (MT CO2e)

4,096 MT

Product Efficiency

Weighted Average System Lifetime Efficiency as of EoY 2020

55.8%

Time to Refurbishment

Product Vintage	Median Time to Refurbishment
2015	4.9
2016	5.0
2017*	5.2
2018*	5.5
2019*	5.5
2020*	5.5

*Projected

Bloom's Remote Monitoring and Control Center in San Jose monitors our global installed fleet of Energy Servers and continuously gathers and analyzes operating data down to the individual stack level to evaluate equipment health and optimize performance. We also have a mirror site in Mumbai, India, that provides both redundancy and resiliency of our Remote Monitoring and Control Center as well as around-the-clock coverage of our fleet. Bloom provides our customers with warranties and guaranties regarding our Energy Servers' efficiency, which drives emissions performance, and we repair any Energy Server that fails to perform in accordance with these commitments. As the fuel cells age, our field service team replaces fuel cells stacks to keep our systems operating appropriately. We report on the average efficiency and stack life of our fleet to demonstrate our commitment to operating with the lowest emissions intensity possible, and reducing costs through fewer stack replacements over the system's operating life.

Air Quality

2020 Global Air Emissions of NOx from Products

6,161 Lbs.

2020 Domestic NOx Reduction vs. Grid Alternatives[1]

Based on comparison to EPA eGRID non-baseload emissions rates inclusive of line losses as a proxy for marginal emissions

-2,202,617 Lbs.
99.7% Reduction vs. Grid

2020 Global Air Emissions of SO2 from Products

0 Lbs.

2020 Domestic SO2 Reduction vs. Grid Alternatives

Based on comparison to EPA eGRID non-baseload emissions rates inclusive of line losses as a proxy for marginal emissions

-552,119 Lbs.
100% Reduction vs. Grid

The California Air Resources Board has certified our Energy Servers as a Distributed Generation Technology due to their air quality emissions profile. This distinction is given to only the cleanest electricity generation technologies in California and dictates our Energy Servers meet stringent NOx, CO and VOC standards. We create air quality benefit in the same way we create net GHG benefits - through the displacement of fossil combustion power generators on the margin and the replacement of diesel backup systems on our customer sites through our microgrid deployments. The health and environmental impacts of combustion-related pollutants (including particulate matter) are a major focus of the EPA and air quality districts nationwide. In fact, particulate matter may be the largest environmental health risk factor in the nation[2], and disproportionately impacts disadvantaged communities. Vulnerable communities, such as the elderly and low-income households, are impacted due to the increased likelihood of proximity to industrial facilities, including power plants or businesses testing and utilizing large diesel backup systems. As such, we are focused on improving air quality in these communities and providing the model for near-zero criteria pollutant energy generation for policymakers, regulators, and the environmental justice community.

[1] https://www.epa.gov/egrid/download-data
[2] https://doi.org/10.1073/pnas.1818859116

Water & Wastewater Management

2020 Domestic water withdrawn per Megawatt Hour (MWh)

0.51 gallons per MWh

2020 Domestic water Impact per MWh vs. Grid Alternatives

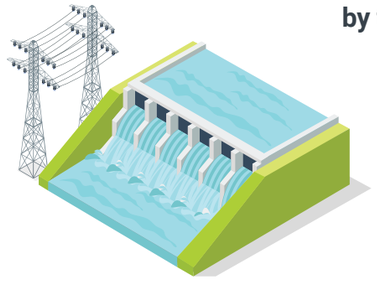
Compared to U.S. thermo-electric power generation (excluding hydro) cited by the U.S. Geological Survey[1]

-18,774 gallons per MWh
100% Reduction vs. Grid

Our Energy Servers withdraw water only during start-up and if the system trips and needs to restart. Otherwise, Energy Servers use no water during operation. Conversely, thermal power plants require significant amounts of water for cooling. In fact, the number one use of water in the U.S. is for cooling power plants. To produce one megawatt per hour for a year, thermoelectric power generation for the U.S. grid withdraws approximately 156 million gallons of water more than our platform.

Thermoelectric energy generation accounts for 40% of US water withdrawals[2]

90% of all electricity generation is water intensive[3]



80% of the world's electricity is generated by thermal power

[1] http://pubs.usgs.gov/circ/1405/pdf/circ1405.pdf
[2] https://cfpub.epa.gov/roe/indicator.cfm?i=94
[3] https://unesdoc.unesco.org/ark:/48223/pf0000225741

Product Stewardship and Circularity

We take a cradle-to-cradle perspective on product design and use. At the beginning, we strive to reuse components and recoverable materials where feasible and use conflict-free, non-toxic new resources where needed. We design our equipment so that components can be easily refurbished as needed instead of requiring new equipment. Finally, we cover as many materials and components as possible during end-of-life management, reusing these materials and components.

Materials Sourcing

Since our founding, our supply chain has been developed 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 provide 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 South East Asia, Europe, and India, consisting of suppliers with multiple areas of expertise in compaction, sintering, brazing, and dealing with specialty material manufacturing techniques. We are committed to the creation and maintenance of a responsible supply chain, and we expect our employees who interact with suppliers to adhere to the standards set out in our Global Business Partner Standards, which include specific guidance on supplier-related anti-corruption practices such as diligence, documentation, and legal circumvention.

We are particularly focused on preventing any irresponsible smelting or refining activity of 3TG materials (tantalum, tin, tungsten, and gold) in our supply chain and filed our first conflict minerals supplier report (Form SD) with the Securities and Exchange Commission (SEC) in May 2020 covering reporting year 2019. We followed up our first report with the adoption of a Responsible Sourcing Policy and implemented responsible sourcing requirements in our standard purchase order template. We anticipate that the supplier response rate to our reporting year 2020 conflict mineral survey will exceed our 2019 response rate of 82%. We are evaluating suppliers' responses and will escalate action in respect of any suppliers found with high risks (primarily with upstream smelters within the Democratic Republic of the Congo or its surrounding countries). We have established an internal cross functional Sourcing Council dedicated to developing supplier responsibility standards and institutionalizing supplier screening.

We utilize rare earth metals in our fuel cell ink coating, notably scandium. We have a supplier diversification strategy in place to support business continuity considerations, which has resulted in the broadening of our supply base outside of China to suppliers in Japan and the Philippines. This also helps us to ensure better refining responsibility due to the presence of typically stronger regulatory frameworks outside of China.

Hazardous Materials Management

Natural gas, which is the primary fuel used in our Energy Servers, contains benzene, which is typically classified as a hazardous waste if it exceeds 0.5 milligrams per liter. The small amount of benzene found in the natural gas used as fuel is equivalent to what is present in one gallon of gasoline and is collected through replacement of desulfurization units contained in our Energy Servers every 15-36 months.

As of January 2021, no Bloom desulfurization material generated in the U.S. is transported or disposed of as hazardous waste. Instead, it is recycled. At the time of desulfurization canister exchange, Bloom ships its spent desulfurization canisters to our recycling partner ShoreMet in Valparaiso, Indiana, who uses it as a source of copper for the production of assorted copper compounds. Copper metal is digested (chemically dissolved) into solution and utilized in the manufacture of copper compounds, including copper amine carbonate, copper oxide, basic copper carbonate, and copper chloride dehydrate. Recycling the media in this fashion not only creates an important end-of-life circularity, but also displaces copper extraction and ensures that the desulphurization activity is not classified as hazardous material management under the Resource Conservation and Recovery Act.

Product End-of-Life Management

2020 Percentage by weight of products sold that are recyclable or reusable

>98%

2020 Estimated weight of end-of-life material recovered, percentage recycled in tonnes

1,420 Metric Tonnes

Bloom Energy Servers are designed with full product life cycle sustainability as a requirement, and we maximize the reuse of components within our systems at end-of-life. Our fuel cells have a lifecycle similar to that of an aircraft engine. They start their lives as newly manufactured stacks in a Power Module (PM) and are installed at a customer site. They generate power for a certain period of time, and our Remote Monitoring and Control Center determines when the PMs need to be removed for repair or overhaul. Once removed, the PMs are sent to our Repair and Overhaul Manufacturing Operations, a division of our service business, where the PMs are repaired or overhauled to redeploy back into the field as part of our service maintenance contracts. The materials that cannot be re-used in the product follow recycling streams that result in reuse of the materials in other industries, or, in the case of the fuel cell electrolyte, right back into our product.

Lifecycle feature of the electrolyte: the heart of the Fuel Cell and how the Repair & Overhaul business optimizes this cycle for re-use of the material.

As a function of an approximately 30,000-pound (lb.) Bloom Energy Server, the weight of components that go to the landfill without a recycling or refurbishment stream comprises approximately 510 lbs., or less than approximately 2% of the total server weight. Typical components that go directly to landfill without refurbishment or recycling are sealants, adhesives, gaskets, filters, tape, and non-recyclable plastics.

People

Our mission is to make clean, reliable energy affordable for everyone in the world because we know that allows our communities to be safe, prosperous, healthy, and resilient. Community impact is what motivates us every day to provide the highest-quality products and solutions possible.

Supporting Our Communities

Assisting Vulnerable Communities

2020 was a difficult year for many of the communities we serve, but we responded by being adaptable, flexible, and innovative in creating solutions in the face of emergencies. Our rapid deployment of engineering and manufacturing resources has come to the aid of vulnerable communities in multiple ways during the COVID-19 pandemic and extreme weather.

Ventilator Refurbishment

In March 2020, when the country came to a standstill in light of the spread of COVID-19, we voluntarily launched an initiative to refurbish ventilators at our San Jose and Newark facilities. We knew that we could put our manufacturing, engineering, and operational expertise to work and successfully refurbished more than 1,300 ventilators at cost that were supplied to state emergency management departments and healthcare facilities in California, Delaware, and Pennsylvania.

Rapid Deploy Microgrids

When a field hospital was set up in Sacramento, California to expand the state's hospital capacity and house COVID-19 patients, we and our installation and utility project partners were able to deploy a microgrid in three days. The Bloom microgrid provided essential reliable "AlwaysON" power to serve the critical medical needs of Californians. Similar microgrids were rapidly deployed to a hospital in Louisiana and a hospital system in Vallejo, California, providing vital power to accommodate patient overflow. Importantly, these facilities could not have utilized traditional temporary diesel power solutions due to the impact on patient respiratory health, reinforcing the importance of our products' air quality impacts on vulnerable populations every day.

Redirecting Excess Power

On top of the challenges with COVID-19, California continues to deal with grid instability from climate-driven extreme weather, primarily wildfires. But 2020 saw blackouts due to extreme heat as well. Our customers agreed to export the excess power generated at their sites to the grid to provide additional generation capacity. Thanks to their generosity, we managed to help power communities facing the ill effects of the pandemic.

2020 was a difficult year for many of the communities we serve, but we responded by being adaptable, flexible, and innovative in creating solutions in the face of emergencies.

Mobile COVID-19 Testing & Vaccination

To help keep our employees and neighbors safe, we partnered with El Camino Health to set up a mobile COVID-19 testing facility for Bay Area organizations, businesses, and schools. Using the University of Illinois' innovative Shield T3 COVID testing system, the mobile unit offers rapid, accurate, and inexpensive testing, providing critically needed tests for area businesses, schools, and disadvantaged communities. One in six tests purchased by Bloom Energy and participating organizations was used to help Valley Medical Center Foundation purchase a mobile medical bus to vaccinate homebound seniors, people with disabilities, farmers, and others who might not otherwise be easily served.

Enabling Resilient Communities

In the dark of a crisis, Bloom Energy shines a light by facilitating the continuous operation of businesses and essential facilities with uninterrupted power from our AlwaysON Microgrids. Our microgrids are onsite clusters of fuel cells powered by underground gas networks allow businesses to keep the power on without interruptions. Our autonomous microgrids don't depend on transmission lines, eliminating the risk of being cut off from power due to damage from hurricanes and other natural disasters. These microgrids can also be installed alongside batteries and solar panels to increase flexibility and reliability. At a time of rising sea levels and temperatures causing climate disturbances and unpredictable weather patterns, our microgrids are beacons of energy resilience. Telecommunication facilities that power through grid outages are relied upon by first responders, citizens, and businesses alike. Microgrids installed at supermarkets ensure that communities continue to have access to sources of food and water. Large retail stores that are powered by Bloom Energy microgrids are available to supply materials for storm preparation and recovery. Microgrids installed at hospitals allow for continued provision of healthcare services and even enable the conduct of elective surgeries that are prohibited when a hospital is operating solely on a diesel backup generator. In short, our microgrids provide a resilient source of onsite power generation for a series of industry verticals that support key services to the communities in which we operate.

As it has been proven many times that when severe weather rolls in, grid distribution systems are the first pieces of infrastructure to fail communities, leaving thousands without power or access to critical resources. Our systems have proven resilient through hurricanes, earthquakes, physical damage, and fire damage. From the US to India to Japan, more than 100 Bloom microgrids maintain an uninterruptible power supply for hospitals, supermarkets, data centers, high tech manufacturers, university campuses, and more. In 2020 alone, we helped our customers ride through more than 75,868 minutes of downtime between 517 outages across 67 sites -- and kept critical services functional through severe weather events.

2020 in Context

In 2020, there were 22 weather/climate disaster events in the US with losses exceeding $1 billion. The CPI adjusted 1980-2020 annual average is 7.0 events; the annual average for the most recent 5 years is 16.2 events[1].

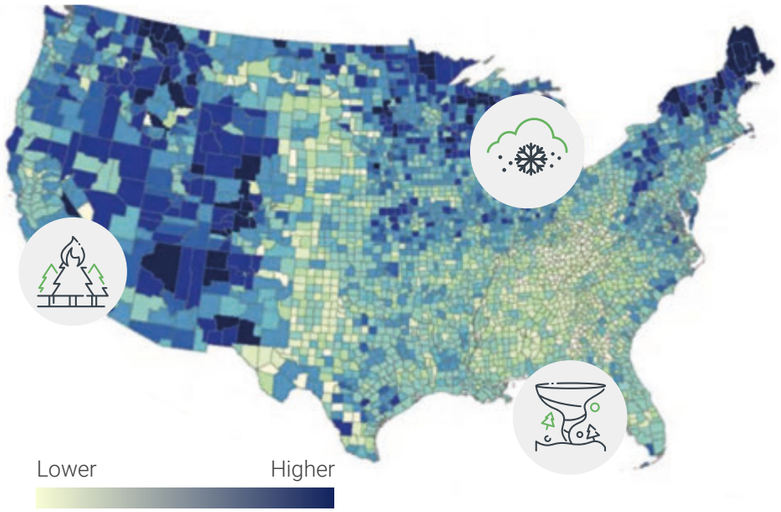
[1] https://www.ncdc.noaa.gov/billions/

The grocery chain Stop & Shop in the Northeast U.S. initially adopted Bloom's microgrids at two locations. Although this was done in part to meet a commitment to reduce its carbon footprint by 20%, the decision ended up saving the business hundreds of thousands of dollars in perishables and allowed the stores to remain open to serve the community when a record snowstorm hit. In recognition for the fact that the fuel cells weren't just supplying low carbon power, the company booked an order in 2020 for microgrids to be placed at an additional 40 stores to bolster their business resilience.

In 2019, Bloom's fuel cells kept several New York-area big box stores open during power outages caused by storms and a heat wave, providing the power necessary to support critical functions and enabling the retailer to supply critical hardware to the communities it serves.

When Hurricane Isaias hit in the summer of 2020, Bloom microgrids prevented 25 power outages across 14 microgrids in the Northeast, including a 911 call center in Long Island, New York.

US Resiliency Hazard Map



Climate risk has created a set of 'Resiliency Zones' that require action to mitigate risk of power outages.

FIRES

PSPS events in 2019 left 3M Californians without power, many for multiple days. PSPS events expected to continue for next 10 years.

WINTER STORMS

36K First Energy customers without power due to storms and high winds in Ohio.

HURRICANES

Hurricane Harvey left 336K customers without power. Number and intensity of hurricanes expected to increase in the coming years.

In August 2020, for the first time in years, California was unable to import power from neighboring states due to the pervasive heatwave throughout the entire western U.S. In addition, solar sources are unavailable in the evening. The California Independent System Operator issued a Stage 3 emergency alert with electricity supplies strained to a degree not seen in nearly 15 years. When California was unable to meet its energy needs, Bloom stepped up to export 8.9 MW of excess energy capacity to help relieve the strain on the State's aging and overtaxed grid to power nearly 15,000 homes. Bloom customers in California were generating up to 265 MW of power during those evening hours of rolling blackouts. Bloom engaged its existing customers to identify excess capacity for power generation from our systems that could be exported back to the grid to provide immediate relief.

Bloom helps customers keep power on when the grid goes down

1750+ SAVES
and counting

Bloom Energy powered customers through more than 900 Mwh of outages since 2018

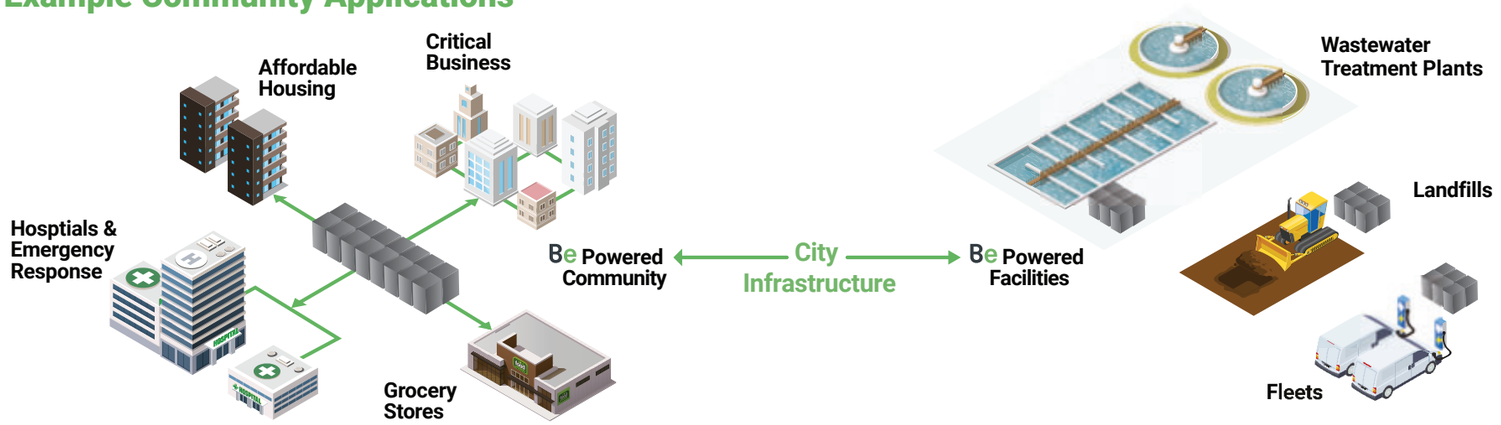
Community Microgrids

We are deploying a portfolio of more than 40 megawatts (MW) of solid oxide fuel cells in the Northeast through a new policy framework known as a Community Distributed Generation (CDG) program. Innovative CDG programs use a subscriber-based structure to incentivize clean energy developers to install clean power generation at key locations within the distribution network in order to alleviate stress on the electric grid, decrease harmful GHG emissions and air pollutants, reduce costs, and enhance energy reliability, while allowing consumers to purchase cleaner, more affordable, and resilient power.

Electricity generated by our Energy Servers will produce utility bill credits for customers of the program. Customers – particularly small businesses with smaller loads and residential customers – will now have a choice and access to cost-effective and more resilient energy sources. Utilities benefit from increased grid resiliency and lower transmission and distribution infrastructure outlays, as the power generation system is located within the distribution infrastructure.

The company's first CDG installation in Staten Island, N.Y. is located in a designated "Locational System Relief" area that has recently faced multiple widespread power outages due to aging, malfunctioning, and over-stressed grid infrastructure. Residents and businesses in the area regularly experience low voltage conditions, and the local utility has been forced to shore up its constrained circuits using portable backup generators. The initial 7.5 MW Staten Island CDG project will support the local distribution grid with a targeted supply of reliable electricity while displacing more than 28,500 pounds of NOX and over 1,500 pounds of SO2 emissions annually compared to today's alternatives. This scale of local combustion-related pollutant emissions displacement is essentially impossible to achieve with any other technology, especially in space-constrained New York City.

Example Community Applications



Microgrids for Affordable Housing. In 2017, Bloom Energy worked with electric utility Con Edison of New York to install a 400kW fuel cell combined with solar and storage at an affordable housing development in Brooklyn, N.Y. known as the Marcus Garvey Apartments. Con Edison identified Bloom Energy solid oxide fuel cells as a feasible solution due to their small footprint, high-capacity factor, lack of local air pollution, and innocuous siting characteristics. The project was part of a Con Edison "Non-Wires Solutions" initiative that used energy efficiency and distributed generation to avoid nearly $1B in costs associated with traditional utility operation.

Hartford Microgrid Powers Vital Community Services. Bloom Energy Servers power an 800-kilowatt microgrid in Hartford, CT. The microgrid, operated by Constellation Energy, generates 100% of the electricity for Hartford's Parkville Elementary School, Dwight Branch Library, Parkville Senior Center, and Charter Oak Health Center. If there's an electrical grid outage, the microgrid will provide emergency power to these locations, along with a local gas station and grocery store, so residents can purchase essentials. Excess power generated by the system will reduce electricity costs at four local schools. The microgrid ensures reliable, always-on power access to citizens of Hartford's Parkville neighborhood.

Generating Revenue for Rural and Municipal Operations While Improving Air Quality

Converting biogas to power with our Energy Servers not only reduces GHG emissions but can also provide a valuable revenue stream to landfill, waste water, and agricultural waste facilities – especially in years like 2020 when revenues were challenged by the COVID-19 pandemic.

Agricultural sources

In 2019, we announced a collaboration with California Bioenergy (CalBio) to convert dairy manure into electricity, which dairy farmers sell back into the grid while avoiding emissions of harmful air pollutants produced by alternatives and helping to improve local air quality in communities throughout California's Central Valley.

Landfill sources

In February 2019, we started producing electricity from our pilot onsite landfill biogas-powered solution in collaboration with Southern Company in the southeast United States. The 50 kW Energy Server has since generated 100% clean and renewable power for the local grid. Similar biogas systems will allow landfill operators to generate a new source of income or cost savings by selling electricity to the local grid or powering onsite facilities. While we support total waste reduction, such landfill biogas systems can generate financial and environmental benefits while communities transition to low-waste practices, especially for capped landfills, which continue to emit methane for years.

Wastewater sources

Sewage sludge, the byproduct of the wastewater treatment process, requires treatment prior to final disposal, and sludge treatment can account for a significant portion of a wastewater treatment (WWT) plant's operating costs. However, sewage sludge can be used as a feedstock for renewable energy production. Our Energy Servers have the unique ability to run on the low purity biogas produced by these WWT plants -- gases that are typically flared. Using the low purity gas as a fuel source to generate electricity can reduce the cost of energy consumption, provide a source of income, harden the plant's energy resilience, improve local air quality, and generate substantial GHG emissions reductions versus less efficient grid alternatives.

Providing Clean and Reliable Energy Access to Remote Communities

From first-world communities that need reliable power to serve the needs of their residents to communities in emerging economies that need power to raise their standard of living, energy access is foundational to economic development and mobility. We must develop electrical infrastructure that enables population and economic growth without further imperiling the future of the planet.

To best serve the needs of remote communities, this infrastructure needs to avoid water consumption, land use, air quality impacts, and GHG emissions in order to ensure the development of both economically vibrant but also healthy communities. Our innovative Energy Server platform technology provides power solutions uniquely aligned with the needs of rural communities and village-scale applications.

Because our independent microgrids create energy wherever they are based, they bypass the need for thousands of miles of exposed overhead wires from a power plant. Communities can leapfrog to an architecture of distributed generation and microgrids without having to shoulder the massive capital costs of building a central grid infrastructure. Additionally, our technological advancements enable rural communities to use local fuel sources, such as agricultural and municipal solid waste otherwise sent to landfills, to power their communities with 100% clean fuel and zero GHG emissions.

Over the past decade, we have been focused on building supply chain and manufacturing capability while reducing costs. Our next phase of growth includes a focus on international expansion where the promise of clean, reliable, and resilient distributed energy solutions, islands of hope in a sea of uncertainty, can finally become a reality.

Our first example of our products' fit for developing world applications came with the booking of a 4 MW Bloom fuel cell deployment with partner EnergyPower in Mahastrasha, India. The project's fuel source will be biogas from an agricultural and municipal waste digester. The regional deployment is significant, but the use of onsite biogas reinforces the promise of wider deployment of our technology in the developing world.

Taking Care of Our Employees

Promoting Diversity, Equity, and Inclusion

Since our inception, we have supported diversity, equity, and inclusion. From our visionary CEO, KR Sridhar, to our manufacturing plant employees, a large percentage of our population is from underrepresented communities. 44% of our Board is composed of ethnic minorities, including a female African-American member. 33% of our executive management team is composed of ethnic minorities and 40% are women. We recognize that diverse leadership contributes to a diversity of experiences and viewpoints that ultimately lead to more informed decisions. Our mission of providing clean, reliable, and affordable energy to everyone is best achieved when every voice is heard and valued.

We are committed to continuing to foster the diversity of our workforce and are actively developing programs and strategies to support this commitment. We recently initiated a Talent Acquisition Strategy, the goal of which is to identify and attract a slate of candidates from underrepresented groups through increased investments in advertising and outreach. We have established a University Program partnering with university diversity groups including the Society of Women Engineers, Society of Hispanic Engineers, and National Society of Black Engineers, to name a few. Additionally, we are partnering with several historically Black colleges and universities to hire interns and employees. We are committed to being a military-friendly employer and have partnered with several veteran organizations and agencies to identify and hire talent. Our veteran population represents 9.3% of our total U.S employee population. In recognition of our military hiring efforts, 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.

Supporting Employee Well Being

Compensation and Benefits

We provide our employees with robust compensation packages that include competitive salaries, bonuses, and opportunities for equity ownership. We review and enhance the benefits portion of the package periodically, seeking to improve our competitiveness across health and income replacement programs. For example, we recently introduced a new program to facilitate employee access to mental health care, both in terms of cost and ease of access.

Employee Health and COVID-19 Safety Measures

Bloom Energy has been going above and beyond to protect employees during the COVID-19 pandemic. Employee safety is our top priority. Among other things, we are providing daily temperature checks and health checks at entrances; cloth or surgical masks to all workers; modified work areas to ensure social distancing; regular COVID-19 testing; frequent cleaning and disinfecting of all areas; closed or modified breakrooms to reduce risk of transmission; and state of the art air filtration systems that have been FDA-verified to kill the COVID-19 virus. We have also established rigorous quarantine protocols. As evidence of these efforts, our positivity rate is far lower than those of the counties in which we operate.

Employee Safety and Training

Our management seeks to provide a safe working environment. We believe in the principle “safety first” and that most incidents are preventable. We strive to foster an environment that integrates safety throughout our operations to reduce or eliminate illness and injuries among our workforce.

To support this, we have established well-defined safety, health, and environmental policies and procedures and offer ongoing training. We have focused on prevention programs and driving continuous improvement via “Design for Safety” initiatives during product development, interactive training programs with all employees, hands-on audits, employee engagement through monthly team meetings, and relentless focus on deep dive investigations so that we can learn and improve from any incidents that occur.

We manage occupational health and safety via our Injury and Illness Prevention Program (IIPP). The IIPP is our Environmental Health & Safety (EHS) standard and applies to all areas and functions of our business. Our employees, contractors, interns, visitors, and subcontractors are expected to follow the IIPP with respect to operations being performed within our facilities and at customer installations.

The IIPP provides information on procedures relating to inspections, occupational injury/illness reporting and investigation, hazard correction, risk assessment, and training. We track all safety incidents via an electronic system and require completion and submittal of an electronic incident report within 24 hours of any incident, whether an accident, illness, or near miss. Among other things, the reporting form requires an investigation and the identification of immediate, short-term, and long-term corrective actions as well as root causes. Through our electronic platform, we can generate quarterly and annual data on incidents, which are used to identify trends and target EHS resources for purposes of continuous improvement.

In order to provide employees with the information required to complete job tasks appropriately and safely, we offer training:

1. For new workers prior to or at the time of initial job assignment;
2. For workers given new job assignments for which training has not previously been received;
3. Whenever new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard;
4. Whenever we are made aware of a new or previously unrecognized hazard;
5. For supervisors to familiarize themselves with the safety and health hazards to which workers under their immediate direction and control may be exposed; and
6. For site-specific training on emergency procedures and potential hazards and controls relevant to employees' job tasks and specific workstations.

Keeping Jobs Local

While Improving the Communities in Which We Operate

Our technology has a global reach, but at our core we are all about improving and expanding operations nationally and serve our local communities. In Delaware, where we have our Newark manufacturing facility, we invested $6.6 million last year to prepare for future growth. At the height of the COVID-19 pandemic, instead of layoffs we added 57 new roles in Delaware, bringing the employee number to 397. We invested in the Newark community by building a training facility and entering into a partnership with the Delaware Office of Work-Based Learning at Delaware Tech to bolster workforce development.

Additionally, our products are providing clean energy solutions to the residents of the Diamond State and helping the state achieve new standards for clean energy. The Delaware Division of Energy and Climate has put in place limits on the amount of harmful emissions generated by the local electric industry. Utility companies like the Delmarva Power Plant, encouraged by the Renewable Energy Portfolio Standards Act (REPSA), have had to increase their renewable and alternative energy sources to power local communities. Our Newark, Delaware facility's collaboration with Delmarva Power Plant helps power thousands of homes with clean energy produced by fuel cells made by Delawareans.

Our fuel cell technology is helping the Delmarva Power Plant achieve reduced emissions and meet the required 25% of alternative energy sources mandated by REPSA. We have succeeded in decreasing CO_2 emissions by 50% and nearly eliminated smog-forming particulate emissions. More importantly, we are providing clean energy to over 22,000 homes in the state.

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, further expanding Bloom's physical and employment footprint in the South Bay.

Business Ethics and Compliance Training

We are committed to ensuring that there are well-defined ethical principles in our company and that our employees are properly trained on ethical matters.

To this end, our Board of Directors has adopted a Global Code of Business Conduct and Ethics that applies to all of our employees, officers, directors, and contractors. While the Global Code of Business Conduct and Ethics does not address every possible circumstance an employee might encounter, it does provide guidance for the most common ethical situations. The Audit Committee, on behalf of the Board of Directors, oversees compliance with the Global Code of Business Conduct and Ethics, including the consideration of actual and potential conflicts of interest, the review and approval of related party transactions, and the review and approval of procedures for handling complaints regarding accounting or auditing matters. We had no confirmed cases of breaches to our Global Code of Business Conduct and Ethics in 2020.

Our Ethics Hotline provides a vehicle for those subject to our Global Code of Business Conduct and Ethics to submit to us or to our Audit Committee confidential, anonymous reports of concerns regarding, among other matters, fraud or questionable accounting or auditing matters. The Audit Committee receives a regular report from executive management that summarizes the number and types of issues submitted to us through our Ethics Hotline and management's responses with respect thereto.

In addition, as we seek to expand internationally we have enacted a Global Business Partner Standards Policy and a Global Anti-Corruption Policy. These policies strictly prohibit all forms of bribery and corruption, in any form, whether government or commercial bribery.

Together, our Human Resources and Legal teams work to ensure that our employees have appropriate training on compliance-related issues, including our Global Code of Business Conduct and Ethics. Our mandated online training modules allow managers to assess individual job responsibilities and ensure that appropriate job-related compliance training is identified and mandated. These trainings cover topics like insider trading, workplace ethics, anti-corruption, and harassment awareness.

ESG Management and Oversight

As we noted in the beginning of this report, we are in the midst of a rapid transition with respect to our management of ESG-related risks and opportunities. We are evolving both board oversight and management processes to more fully and formally incorporate ESG data and analysis into our strategy development, risk management, and operations.

Our sustainability governance structure involves numerous participants engaging in information sharing and decision-making, capitalizing on the depth and breadth of expertise throughout the company.

ESG Management and Oversight

Board of Directors

- Approves company strategy, including ESG components
- Provides strategic guidance on ESG matters relevant to the company's business

- Information and recommendations

Nominating, Governance & Public Policy Committee

- Oversees and makes recommendations to the Board on governance and sustainability matters
- Oversees all ESG matters
- Provides guidance on significant social and political trends, legislative proposals and regulatory developments, and energy and environmental policy

Audit Committee

- Oversees the policies and processes established by management to assess, monitor, manage, and control the Company's material risk exposures including those pertaining to ESG and the risks potential impact on the financials

Compensation and Organizational Development Committee

- Oversees all issues pertaining to human capital management - organizational development goals and programs including leadership development, talent assessments, and diversity and inclusion initiatives and objectives
- Responsible for executive compensation and any pay metrics tied to ESG performance

- Information on ESG programs, goals, and metrics, and the identification, assessment, monitoring, and management of ESG risks
- Information on processes for ESG risk identification, assessment, monitoring and management

CEO

- Approves ESG goals and positioning
- Pushes executional mandates internally

- Information on status of compliance programs
- Reporting on culture, working environment, talent composition, social or other issues impacting the workforce

EVP Government Affairs and Policy

- Co-Chairs ESG Committee

ESG Working Committee

EVP, CFO	EVP, COO	EVP, CTO	EVP, CMO	EVP, Chief Sales Officer	EVP, Customer Installment Group	EVP, Chief People Officer	EVP, General Counsel	EVP, International Business Dev.

- Responsible for setting ESG priorities and objectives

EVP Services, Quality, Reliability and EH&S

- Co-Chairs ESG Committee

VOLUNTARY ↕ **PROGRAMS**

COMPLIANCE ↕ **PROGRAMS**

Director, of Sustainability

- Owns Voluntary execution
- Leads public disclosure activities

Cross-functional ESG Working Group

Department leaders deputized by ESG Committee to execute programs

- Responsible to inform and produce relevant positioning, programs, policies, procedures, goals, or reporting as directed

Senior Director, Environmental Compliance and EH&S

- Owns Compliance execution
- Leads development and implementation of internal management system

Board oversight of ESG

The Board, as a whole and through its committees, oversees our strategy, ESG efforts, and risk management processes. All Board committees have active oversight of one or more key ESG components. In 2020, our Board delegated to the Nominating, Governance & Public Policy Committee (the "Nominating Committee") oversight of sustainability matters in recognition of the importance to our business. The Audit Committee, with its oversight of risk management processes and financial matters, and the Compensation and Organizational Development Committee, which oversees human capital matters, share relevant information and analysis with the Nominating Committee. Information and analysis from each of the committees are taken into account by the full Board in considering and providing guidance on our strategy and objectives for the short-, medium-, and long-term, including on climate and other sustainability-related strategy and objectives. Management provides the Nominating Committee with background on emerging trends, relevant disclosure standards, and the importance of ESG management to the business.

Executive leadership, management governance structure, and ESG strategy

Our CEO is responsible for approving our ESG goals and strategies based on the Board's guidance and directives, and for overseeing the execution of those strategies. Our senior-level executives are responsible for assisting the CEO in formulating our strategies and setting our priorities and objectives based on information and analysis from management in each functional area. Our executive leadership team, which includes all the members of the ESG Committee (described below), meets weekly with the CEO to engage around various risk management areas of the business. Through these formal and informal processes of executive interactions, risks and opportunities can be continuously raised, evaluated, and factored into ongoing strategy development.

In 2020, we formalized senior executive involvement related to climate and environmental, health, and safety matters with the establishment of a new, management-level ESG Committee, which is intended to be our central source for ESG risk identification, data analysis, and policy, program, and strategy formulation. The Committee provides a platform for our leadership to understand, staff, resource, and manage ESG-related risks and opportunities. The Committee is comprised of the most senior leaders of each of our functional areas, and its initial responsibilities include:

- Assisting the CEO in developing our strategy with respect to ESG matters.
- Formulating and recommending policies and practices that align with our strategies, and advising on how ESG matters may impact other company policies and practices.
- Overseeing the relevant reporting and disclosures.
- Advising the CEO and the Board of current and emerging ESG matters that may affect our business, operations, performance, or public image or that may otherwise be significant to us and our stakeholders.

We continue to clarify the responsibilities and objectives of the ESG Committee, and are actively developing the processes, data requirements, and reporting relationships underlying the committee's operations. As the Committee matures, we expect to evolve and expand its responsibility and potential membership to address new geographic regions and sustainability issues introduced through our growth.

Environmental Management System

We are in the process of building an ISO 14001-informed Environmental Management System (EMS) that will establish an environmental policy and framework for managing our environmental program in a comprehensive, systematic, planned, and documented manner. This will help ensure the organization is continuously improving its environmental performance. EMS development began in the fourth quarter of 2020, overseen by a cross-functional team composed of talent from every part of the organization that provides input at every stage of development. As part of the process, the development team will understand the needs and expectations of interested parties and internal and external issues relevant to the organization and the EMS, conduct a gap assessment, and use the findings to inform the identification of environmental objectives. The development process will include the creation of an EMS manual that includes procedures that address roles, responsibilities, and authorities; training; communication; document control and management; and change management.

The EMS will further enable us to manage our environmental impacts from a proactive, risk-based perspective consistent with our public commitments. Initial steps, including the adoption of our first corporate Environmental Policy, were completed in the fourth quarter of 2020. The EMS manual is under development, and identification and implementation of a first set of environmental objectives are on track to occur during the second half of 2021. We currently anticipate conducting our first EMS audit in 2022. The ESG Committee will provide the platform for executive level management review of progress on environmental objectives on at least an annual basis.

Environmental Policy

Bloom's mission represents a commitment to a balanced and equitable approach to the stewardship and sustainability of our environment, our safety, and economic wellbeing. This mission defines how we conduct our business and how we treat our employees and the customers and communities we serve.

Bloom carries out this policy with the following guiding principles:

- Bloom Energy delivers solutions to its customers that have a positive impact on the environment by significantly reducing GHG emissions, criteria pollutant emissions, and water use.
- Consistent with its stated mission and technology, Bloom is committed to managing its business in a manner that protects the environment and minimizes the impact of its manufacturing and operations on air, water, land, and other natural and cultural resources.

To operate consistent with its mission and guiding principles, Bloom will:

- Comply with all applicable legal requirements and supplement with other voluntary commitments where it believes legal requirements are not sufficiently protective of the environment.
- Drive continual improvement by identifying and analyzing risk, setting objectives and targets that drive and measure progress, and documenting actions taken to mitigate risk and impacts associated with operating Bloom's business.
- Reinforce these commitments through periodic leadership reviews and self-assessments that will ensure continual improvement in Bloom's environmental performance.

Risk management process

Our ESG Committee, composed of key executive leaders, is positioned to surface ESG-related risks as they are encountered on an ad hoc basis, but the formalized committee structure adds a level of transparency and accountability in their ongoing management. The Director of Sustainability and Senior Director of EH&S are tasked with coordinating dedicated cross-functional groups in their development of risk responses and programming. The ESG Committee will evaluate related risks for significance and recommend to the CEO strategies for responding to and managing the risks.

In addition, in 2020 we launched an Enterprise Risk Management (ERM) function within Internal Audit, using the ERM Committee of Sponsoring Organizations of the Treadway Commission (COSO) Framework. Under this framework, we identify our risk profile and risk appetite and address the risks.

The ERM function is in its early stages. The first step in 2020 was to begin our Enterprise Risk Assessment, which included understanding our strategies and gathering data related to risks from senior executive management to middle management. The potential size and scope of the risks identified were contingent on risk factors of probability, impact, velocity, and preparedness.

We evaluated the likelihood of risk occurrence on a five-point scale across four dimensions: Remote/Long term (more than three years); Possible/Medium term (between one and three years); Likely/Nearer term (within the next year); Certainly/Near term (imminent or multiple times per year). We evaluated risk impact based on financial criteria, operational criteria, and strategic criteria on a four-point scale: insignificant, moderate, significant, and severe. We evaluated risk velocity on a four-point scale: slow (measured in more than 12 months), medium (measured in weeks), fast (measured in days), and immediate (zero warning).

The decision to transfer, accept, or mitigate the risk is made at the senior executive management level with oversight from the Audit Committee. Climate-related risks are a high priority for us due to their likelihood, impact, and velocity, and are part of our Enterprise Risk Management approach in addition to our sustainability-related governance framework. Climate risks are embedded in the budgeting process for product, services, and electricity costs, primarily related to the ESG risks of Market and Technology Shift, Policy and Legal, and Physical Risks mentioned above.

Information sharing

Management provides information reports to the Board via its committees on a quarterly basis, supplemented with additional reports as needed. As the key management body responsible for ESG matters, the ESG Committee will receive information from staff and management regularly. The information enables management to identify, assess, prioritize, and manage impacts, risks, and opportunities, and for decision makers to determine strategy, objectives, and goals.

Internal controls

The ESG Committee has the accountability for final review and recommendation to our CEO for approval of this Sustainability Report. The Committee is comprised of many of the same members of our Disclosure Committee, which has responsibility for assisting senior management in considering the materiality of information and evaluating the appropriateness of disclosures in SEC and certain other public filings. In reviewing this report, the ESG Committee applied the same level of rigor in reviewing the accuracy and appropriateness of information as is applied in reviewing SEC disclosures.

Appendices

TCFD Reference Index

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

The Financial Stability Board established the TCFD to develop recommendations for more effective climate-related disclosures that could promote more informed investment, credit, and insurance underwriting decisions and, in turn, enable stakeholders to understand better the concentrations of carbon-related assets in the financial sector and the financial system's exposures to climate-related risks.

Task Force on Climate-related Financial Disclosures (TCFD) reference index

Recommended Disclosures	Bloom Energy Disclosure
Governance	
Disclose the organization's governance around climate-related risks and opportunities.	See ESG Management and Oversight Section
a. Describe the organization's governance around climate-related risks and opportunities.	See ESG Management and Oversight Section
b. Describe management's role in assessing and managing climate-related risks and opportunities.	See ESG Management and Oversight Section
Strategy	
Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	See Our Strategy Section
a. Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	See Our Strategy Section
b. Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	See Our Strategy Section
c. Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	See Our Strategy Section
Risk Management	
Disclose how the organization identifies, assesses, and manages climate-related risks.	See ESG Management and Oversight Section
a. Describe the organization's processes for identifying and assessing climate-related risks.	See ESG Management and Oversight Section
b. Describe the organization's processes for managing climate-related risks.	See ESG Management and Oversight Section
c. Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	See ESG Management and Oversight Section
Metrics and Targets	
Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	See Environment Section
a. Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	See Environment Section
b. Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions and the related risks.	See Environment Section
c. Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	This is the inaugural report for Bloom Energy. In 2020, we established our baseline impacts and are committed to publishing a suite of corporate targets in the future.

SASB Standards Table

The Sustainability Accounting Standards Board (SASB) mission is to establish and improve industry specific disclosure standards across financially material environmental, social, and governance topics that facilitate communication between companies and investors about decision-useful information.

Table 1. Sustainability Disclosure Topics & Accounting Metrics - Fuel Cells & Industrial Batteries and Electrical & Electronic Equipment

Code	Accounting Metric	Response
Energy Management		
RR-FC-130a.1	(1) Total energy consumed	See Environment Section
	(2) Percentage grid electricity	91.53%, 8.47% Bloom
	(3) Percentage renewable	0%
Workforce Health & Safety		
RR-FC-320a.1	(1) Total recordable incident rate (TRIR)	1.51
	(2) Fatality rate	0
	Description of efforts to assess, monitor, and reduce exposure of workforce to human health hazards	See Employee Safety and Training Section
Product Efficiency		
RR-FC-410a.1	Average storage capacity of batteries, by product application and technology type	N/A
RR-FC-410a.2	Average energy efficiency of fuel cells as (1) electrical efficiency	See Environment Section
	(2) thermal efficiency, by product application and technology type	N/A
RR-FC-410a.3	Average battery efficiency as coulombic efficiency, by product application and technology type	N/A
RR-FC-410a.4	Average operating lifetime of fuel cells, by product application and technology type	See Environment Section
RR-FC-410a.5	Average operating lifetime of batteries, by product application and technology type	N/A
Product End-of life Management		
RR-FC-410b.1	Percentage of products sold that are recyclable or reusable	See Environment Section
RR-FC-410b.2	Weight of end-of-life material recovered, percentage recycled	See Environment Section

Code	Accounting Metric	Response
RR-FC-410b.3	**Description of approach to manage use, reclamation, and disposal of hazardous materials**	See Environment Section
Materials Sourcing		
RR-FC-440a.1	**Description of the management of risks associated with the use of critical materials**	See Environment Section
Product Safety		
Bloom's current product lines, both ES 2.5 and 5.0 fuel cells and ancillary equipment are UL certified. UL is a third-party certification company that has been around for over a century and is universally recognized. UL Certification means that UL has determined that the product meets specific, defined requirements, requirements most often based on UL's published and nationally recognized Standards for Safety. Being UL certified illustrates a businesses' dedication to consumer safety, as well as the quality of their products. For reference, the ES 2.5 fuel cell is UL Listed as a "Stationary Fuel Cell Power System" to ANSI/CSA America FC 1-2004. It is UL Listed under UL Category IRGZ and UL File Number MH45102. The ES 5.0 fuel cell is UL Listed as a "Stationary Fuel Cell Power System" to ANSI/CSA FC 1-2014.		
RT-EE-250a.1	**Number of recalls issued, total units recalled**	None
RT-EE-250a.2	**Total amount of monetary losses as a result of legal proceedings associated with product safety**	None
Business Ethics		
RT-EE-510a.1	**Description of policies and practices for prevention of: (1) corruption and bribery and (2) anti-competitive behavior**	Bloom requires all employees to take anti-corruption training
RT-EE-510a.2	**Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption**	None
RT-EE-510a.3	**Total amount of monetary losses as a result of legal proceedings associated with anti-competitive behavior regulations**	None
Hazardous Waste Management		
RT-EE-150a.1	**Amount of hazardous waste generated, percentage recycled**	See Hazardous Materials Management Section
RT-EE-150a.2	**Number and aggregate quantity of reportable spills, quantity recovered**	None

Table 2. Activity Metrics

Code	Accounting Metric	Response
RR-FC-000.A	**Number of units sold**	142,400 systems (kilowatts) 34,900 systems in US and 107,500 systems in Korea
RR-FC-000.B	**Total storage capacity of batteries sold**	N/A
RR-FC-000.C	**Total energy production capacity of fuel cells sold**	142.4 Megawatts

GRI Index

The Global Reporting Initiative's (GRI) Sustainability Reporting Guidelines provide a comprehensive set of indicators covering the economic, environmental, and ethical impacts of a company's performance.

Disclosure #	Disclosure Title	Our Response
102-1	Name of the organization	Bloom Energy Corporation
102-2	Activities, brands, products, and services	See About Us Section
102-3	Location of headquarters	4353 North First Street San Jose, CA 95134
102-4	Location of operations	See About Us Section
102-5	Ownership and legal form	See About Us Section
102-6	Markets served	See About Us Section
102-7	Scale of the organization	See About Us Section
102-9	Supply chain	See Materials Sourcing Section in Environment
102-13	Membership of associations	Business Council for Sustainable Energy, Advanced Energy Economy, TechNet, Fuel Cell and Hydrogen Energy Association, and Carbon Utilization Research Council
102-14	Statement from senior decision-maker	See Message from Leadership
102-15	Key impacts, risks, and opportunities	See Our Strategy Section
102-16	Values, principles, standards, and norms of behavior	See Business Ethics and Compliance Training Section
102-17	Mechanisms for advice and concerns about ethics	See Business Ethics and Compliance Training Section
102-18	Governance structure	See ESG Management and Oversight Section
102-19	Delegating authority	See ESG Management and Oversight Section
102-20	Executive-level responsibility for economic, environmental, and social topics	See ESG Management and Oversight Section
102-21	Consulting stakeholders on economic, environmental, and social topics	See Materiality Section
102-22	Composition of the highest governance body and its committees	See Proxy Statement https://investor.bloomenergy.com/financials-and-filings/sec-filings/default.aspx
102-23	Chair of the highest governance body	See ESG Management and Oversight Section
102-24	Nominating and selecting the highest governance body	See ESG Management and Oversight Section
102-25	Conflicts of interest	See Proxy Statement https://investor.bloomenergy.com/financials-and-filings/sec-filings/default.aspx
102-26	Role of highest governance body in setting purpose, values, and strategy	See ESG Management and Oversight Section
102-27	Collective knowledge of highest governance body	See ESG Management and Oversight Section
102-29	Identifying and managing economic, environmental, and social impacts	See ESG Management and Oversight Section
102-30	Effectiveness of risk management processes	See ESG Management and Oversight Section
102-31	Review of economic, environmental, and social topics	See ESG Management and Oversight Section
102-32	Highest governance body's role in sustainability reporting	See ESG Management and Oversight Section
102-33	Communicating critical concerns	See ESG Management and Oversight Section
102-40	List of stakeholder groups	See Materiality Section

Disclosure #	Disclosure Title	Our Response
102-42	Identifying and selecting stakeholders	See Materiality Section
102-43	Approach to stakeholder engagement	See Materiality Section
102-44	Key topics and concerns raised	See Materiality Section
102-45	Entities included in the consolidated financial statements	See 10-K https://investor.bloomenergy.com/financials-and-filings/sec-filings/default.aspx
102-47	List of material topics	See Materiality Section
102-49	Changes in reporting	Not Applicable - this is the inaugural Sustainability Report for Bloom Energy
102-50	Reporting period	See About This Report Section
102-51	Date of most recent report	See About This Report Section
102-52	Reporting cycle	See About This Report Section
102-53	Contact point for questions regarding the report	See About This Report Section
102-55	GRI content index	See GRI Index
102-56	External assurance	See Assurance Section
201-1	Direct economic value generated and distributed	See 10-K and Earnings Report https://investor.bloomenergy.com/financials-and-filings/sec-filings/default.aspx
201-2	Financial implications and other risks and opportunities due to climate change	See Our Strategy Section
203-1	Infrastructure investments and services supported	See People Section
205-2	Communication and training about anti-corruption policies and procedures	Bloom's anti-corruption policies and procedures have been communicated to all members of the governance body. Bloom does not require business partners to take the anti-corruption training. However, Bloom communicates the anti-corruption policies to business partners through contract language, which is agreed upon by both parties. A total of 65% of Bloom employees completed the anti-corruption company training in calendar year 2020.
205-3	Confirmed incidents of corruption and actions taken	None

Disclosure #	Disclosure Title	Our Response
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	None
207-1	Approach to tax	Our tax strategy is primarily focused on compliance with all applicable laws and tax efficiency.
207-2	Tax governance, control, and risk management	The company stays current on tax law changes and utilizes outside tax advisors if needed. Significant tax issues are analyzed, tax risks are assessed, and tax positions are documented.
207-3	Stakeholder engagement and management of concerns related to tax	Bloom project finance partners do recognize tax benefit from the Section 48 federal investment tax credit. As such, Bloom does work with industry partners and environmental NGOs to advocate for ITC related program extensions and payment alternatives which would support project economics. Additionally, Bloom has supported an extension of the Section 45Q tax credit for carbon capture and sequestration.
207-4	Country-by-country reporting	The company stays compliant with country-by-country reporting in each jurisdiction.
301-1	Materials used by weight or volume	See Product End-of-Life Management Section
301-2	Recycled input materials used	See Product End-of-Life Management Section
301-3	Reclaimed products and their packaging materials	See Product End-of-Life Management Section
302-1	Energy consumption within the organization	See SASB Standards Table
302-3	Energy intensity	Bloom's energy intensity ratio is 0.0063, which is based on the organization specific metric (denominator) of 3,271,600.643 MWh of electricity produced by Bloom fuel cells globally in 2020. The numerator of 20,614.056 MWh represents the Scope 2 energy consumption within the organization, which includes stationary combustion, electricity, and purchased natural gas in 2020.
302-5	Reductions in energy requirements of products and services	See Innovation Section or SASB Table on Product Efficiency

Disclosure #	Disclosure Title	Our Response
303-1	Interactions with water as a shared resource	See Environment Section on Water & Wastewater Management
303-2	Management of water discharge-related impacts	See Environment Section on Water & Wastewater Management
303-3	Water withdrawal	See Environment Section on Water & Wastewater Management
303-4	Water discharge	See Environment Section on Water & Wastewater Management
303-5	Water consumption	See Environment Section on Water & Wastewater Management
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	None
305-1	Direct (Scope 1) GHG emissions	See Environment Section
305-2	Energy indirect (Scope 2) GHG emissions	See Environment Section
305-4	GHG emissions intensity	See Environment Section
305-5	Reduction of GHG emissions	See Environment Section
305-6	Emissions of ozone-depleting substances (ODS)	See Environment Section ODS were accounted for in Scope 1 emissions calculations
305-7	Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	See Environment Section
306-1	Waste generation and significant waste-related impacts	See Product End-of-Life Management Section
306-2	Management of significant waste-related impacts	See Product End-of-Life Management Section
306-3	Waste generated	See Product End-of-Life Management Section
306-4	Waste diverted from disposal	See Product End-of-Life Management Section
306-5	Waste directed to disposal	See Product End-of-Life Management Section

Disclosure #	Disclosure Title	Our Response
307-1	Non-compliance with environmental laws and regulations	Notwithstanding its belief that it has always transported and disposed of desulfurization material in accordance with applicable state and Federal law, Bloom culminated ongoing discussions with US EPA regarding an exemption it relied on to transport and dispose of desulfurization material between 2010 and 2016 by executing a Consent Agreement and Final Order approved by the Environmental Appeals Board on April 2, 2020. Bloom has since complied with all terms of the Order and in Q4 2020 made its final payment under the Agreement. Total penalties amounted to ~$1,371,000. The resolution of this issue has no impact on Bloom's existing business as it is currently recycling said material in accordance with a recycling exclusion that dictates the material is no longer subject to regulation under the Resource Conservation and Recovery Act (RCRA).
308-1	New suppliers that were screened using environmental criteria	Calendar year 2020 will serve as a benchmark for future year's screening of new suppliers. Approximately 80% of new suppliers were screened using a comprehensive questionnaire which includes environmental and social criteria. Bloom plans to screen 100% of new suppliers in 2021.
308-2	Negative environmental impacts in the supply chain and actions taken	Bloom includes language in all supplier contracts which requires all suppliers comply with all applicable laws and ordinances including those governing environmental and health and safety. None of the suppliers who are engaged in supply chain contracts with Bloom were audited to assess environmental or social impacts but are required to follow all of Bloom's Business Partner Standards, available at bloomenergy.com/supply chain and is updated periodically.

Disclosure #	Disclosure Title	Our Response
403-1	Occupational health and safety management system	See Employee Safety and Training Section Bloom manages occupational health and safety via its Injury and Illness Prevention Program (IIPP). The IIPP is required by the California Occupational Safety and Health Administration (Cal/OSHA) as outlined in the California Code of Regulations (CCR) Title 8 General Industry Safety Orders Section 3202 and Title 8 Construction Safety Orders Section 1509. The IIPP is Bloom's Corporate Environmental Health & Safety (EHS) standard and applies to all areas. All BE employees, contractors, interns, visitors, and subcontractors are expected to follow the EHS policies that are referenced therein and applicable to operations being performed within BE facilities and at customer sites outside of BE facilities.
403-2	Hazard identification, risk assessment, and incident investigation	See Employee Safety and Training Section See 403-1, which includes information on procedures relating to Inspections, Occupational Injury/Illness Reporting and Investigation, Hazard Correction, Risk Assessment, and Training. Bloom Energy and its contractors are required to participate in training on hazard identification and risk assessment. This training is required to be provided to affected employees and contractors on a periodic basis, or as a refresher after a near miss occurs. Moreover, Bloom tracks all incidents via an electronic QuickBase system. To that end, Bloom requires completion and submittal of an electronic incident report within 24 hours of any Accident, Incident, Equipment Damage, Injury, Illness, and/or Near Miss. Among other things, the reporting form requires investigation and the identification of: immediate corrective action(s); short term corrective action(s); long-term corrective action(s); and root cause(s) and incident reports are not closed until corrective actions are completed. In order to get to root cause(s), Bloom employees utilize common techniques including the 5 Whys. All incident reports are tracked via the electronic system and at any point in time, Bloom can generate quarterly and annual data on each category of incident, including recordable injuries. This data is utilized to identify trends and target EHS resources for purposes of continuous improvement.
403-3	Occupational health services	See above.

Disclosure #	Disclosure Title	Our Response
403-4	Worker participation, consultation, and communication on occupational health and safety	As indicated above and below, Bloom has a robust occupational health and safety management system that requires training and retraining in a number of areas and circumstances and where workers actively participate in the incident reporting and resolution process. In addition, the Bloom Energy Safety Team (BEST) is a joint cross-functional worker and management committee instated to promote a safe and injury-free workplace. BEST meets at least quarterly to discuss EH&S updates and champion safety communication throughout the organization.
403-5	Worker training on occupational health and safety	In order to ensure that employees receive the information required to complete job tasks appropriately and safely, Bloom uses the following training programs: (1) Training for all new workers prior to or at the time of initial job assignment; (2) Training for all workers given new job assignments for which training has not previously been received; (3) Training whenever new substances, processes, procedures, or equipment are introduced to the workplace and represent a new hazard; (4) Training whenever Bloom is made aware of a new or previously unrecognized hazard; and (5) Training for supervisors to familiarize themselves with the safety and health hazards to which workers under their immediate direction and control may be exposed. In addition to the above, the following is also provided as needed: (a) additional training courses are provided to Bloom employees depending on job tasks and additional job duties (i.e., participation in emergency response activities); (b) additional training might also be provided for reasons including, but not limited to, emergency preparation, such as Fire extinguisher, First Aid/Cardiopulmonary Resuscitation (CPR), and lift trucks; and (c) Site Specific Training: All new employees will be provided site specific emergency procedures and potential hazards and controls training(s) according to their job tasks and specific workstations.

Disclosure #	Disclosure Title	Our Response
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	See Employee Safety and Training Section See GRI 403-1
403-9	Work-related injuries	See SASB Standards Table
403-10	Work-related ill health	See SASB Standards Table
404-3	Percentage of employees receiving regular performance and career development reviews	Bloom is in the process of developing a performance development program. At this time, 95% of Bloom employees receive regular performance and career development reviews annually.
405-1	Diversity of governance bodies and employees	See Promoting Diversity, Equity and Inclusion Section
408-1	Operations and suppliers at significant risk for incidents of child labor	Bloom's suppliers are required by contract to undertake commercially reasonable efforts to ensure Products are not produced with labor from slavery or human trafficking. None of Bloom's suppliers are considered to have significant risk for incidences of child or forced labor.
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	See GRI 408-1 response
413-1	Operations with local community engagement, impact assessments, and development programs	See Supporting Our Communities Section
413-2	Operations with significant actual and potential negative impacts on local communities	See Supporting Our Communities Section
414-1	New suppliers that were screened using social criteria	See GRI 308-1 Response
414-2	Negative social impacts in the supply chain and actions taken	See GRI 308-1 Response

Disclosure #	Disclosure Title	Our Response
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	None
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	None
419-1	Non-compliance with laws and regulations in the social and economic area	None

Assurance

SUSTAINALYTICS
a Morningstar company

Bloom Energy Corporation

Type of Engagement: Annual Review
Date: March 19, 2021
Engagement Team:
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Introduction

In August 2020, Bloom Energy Corporation ("Bloom" or the "Company") issued green notes aimed at financing projects that are expected to improve the carbon footprint associated with the Company's own operations and across its entire value chain. In March 2021, Bloom engaged Sustainalytics to review the projects funded through the issued green bonds and provide an assessment as to whether the projects met the Use of Proceeds criteria and the Reporting commitments outlined in the Bloom Energy Green Bond Framework.

Evaluation Criteria

Sustainalytics evaluated the projects and assets that were financed and/or refinanced with the proceeds of the green bond based on whether they:

1. Met the Use of Proceeds and Eligibility Criteria outlined in the Bloom Energy Green Bond Framework; and
2. Reported on at least one of the Key Performance Indicators (KPIs) for each Use of Proceeds criteria outlined in the Bloom Energy Green Bond Framework.

Table 1 lists the Use of Proceeds, Eligibility Criteria, and associated KPIs.

Table 1: Use of Proceeds, Eligibility Criteria, and associated KPIs

Use of Proceeds	Eligibility Criteria	Key performance indicators (KPIs)
Renewable Energy	Expenditures related to the manufacturing, construction, development, acquisition, maintenance, and operation of Bloom's renewable energy projects including: • Research and development for biogas, hydrogen and bioenergy to Carbon Capture (BECCS) applications • Manufacturing of biogas cleanup technology • Manufacturing of electrolyzers • Manufacturing of Energy Servers intended to be run with onsite or directed biogas or hydrogen • Biogas project development from qualifying waste sources (aligned with CBI's draft biomethane sector criteria of 60% emissions savings and source eligibility criteria issued by the California Air Resources Board for its programs as a reference standard)	• CO_2 emissions avoided • Criteria pollutant emissions avoided • Water savings
Energy Efficiency	Expenditures related to energy-efficiency projects including equipment, systems, operational improvements and maintenance. Projects include: • The company's fuel cell stack replacement program for Energy Servers running on biogas or hydrogen and those transitioning into full hydrogen compatibility	
Climate Change Adaptation	Expenditures related to manufacturing, construction, research, development, maintenance, and operation of: • Microgrid specific componentry	
Sustainable Water and Wastewater Management	Expenditures related to water efficiency projects and wastewater management including: • Efficiency in water management of electrolyzer and Energy Server systems	
Pollution Prevention and Control	Expenditures related to reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy/ emission-efficient waste to energy such as: • Product end of life recycling activity	
Green Buildings	Expenditures related to new construction, upgrades, and build out of properties that have received or are expected to receive certified: • LEED: Gold or Platinum • BREEAM: Very Good, Excellent or Outstanding • Energy Star	
Clean and Mass Transportation	Expenditures related to electric vehicle or hydrogen charging infrastructure including: • Manufacture of Energy Servers with EV charging capability • Manufacture of EV charging componentry Manufacture and deployment of electrolyzers to generate renewable hydrogen fuel for transport applications	

Issuing Entity's Responsibility

Bloom is responsible for providing accurate information and documentation relating to the details of the projects that have been funded, including description of projects, amounts allocated, and project impact.

Independence and Quality Control

Sustainalytics, a leading provider of ESG and corporate governance research and ratings to investors, conducted the verification of Bloom's Green Bond Use of Proceeds. The work undertaken as part of this engagement included collection of documentation from Bloom employees and review of documentation to confirm the conformance with the Bloom Energy Green Bond Framework.

Sustainalytics has relied on the information and the facts presented by Bloom with respect to the Nominated Projects. Sustainalytics is not responsible nor shall it be held liable if any of the opinions, findings, or conclusions it has set forth herein are not correct due to incorrect or incomplete data provided by Bloom.

Sustainalytics made all efforts to ensure the highest quality and rigor during its assessment process and enlisted its Sustainability Bonds Review Committee to provide oversight over the assessment of the review.

Conclusion

Based on the limited assurance procedures conducted,[1] nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the reviewed bond projects, funded through proceeds of Bloom's Green Bond, are not in conformance with the Use of Proceeds and Reporting Criteria outlined in the Bloom Energy Green Bond Framework. Bloom has disclosed to Sustainalytics that as of December 31st, 2020, 27% of the green bond proceeds have been allocated.

Detailed Findings

Table 3: Detailed Findings

Eligibility Criteria	Procedure Performed	Factual Findings	Deviations from the Framework identified
Use of Proceeds Criteria	Verification of the projects funded by the green bond in 2020 to determine if projects aligned with the Use of Proceeds Criteria outlined in the Bloom Energy Green Bond Framework and above in Table 1.	All projects reviewed complied with the Use of Proceeds criteria.	None
Reporting Criteria	Verification of the projects funded by the green bond in 2020 to determine if impact of projects was reported in line with the KPIs outlined in the Bloom Energy Green Bond Framework and above in Table 1.	Two of the four project categories reviewed reported on at least one KPI relevant to the Use of Proceeds. Allocation reporting is provided at the portfolio level.	There is no environmental impact data available for projects financed under the Renewable Energy[2] and Climate Change Adaptation[3] categories as the projects in these categories are either too recent or the impacts have not yet been fully realized. Sustainalytics does not view this as affecting the overall alignment of Bloom's impact reporting with the commitments of the Framework. Bloom has not disclosed the amount of net proceeds allocated to each eligible project category and has only provided the total amount of funds raised, allocated and unallocated. While noting this level of transparency to be in line with market expectation, this does not fulfill the commitments of the Framework.

[1] Sustainalytics limited assurance process includes reviewing the documentation relating to the details of the projects that have been funded, including description of projects, estimated, and realized costs of projects, and project impact, which were provided by the Issuer. The Issuer is responsible for providing accurate information. Sustainalytics has not conducted onsite visits to projects.
[2] Within the Renewable Energy category, investments in Hydrogen R&D and Electrolyzer R&D took place in Q3 2020, while the environmental impact of other R&D investments (Biogas Project Development and Microgrid R&D) have not yet been fully realized.
[3] Within the Climate Change Adaptation category, the environmental impact of the Microgrid R&D and Componentry projects have not yet been fully realized as these projects are still in progress.

Appendix

Appendix 1: Allocation and Impact Reporting by Eligibility Criteria

Use of Proceeds Category	Projects Financed	Environmental Impact Reported by Eligibility Criteria
Renewable Energy	-Biogas Project Development -Hydrogen R&D -Electrolyzer R&D	The Company is still in the process of measuring the environmental impact of the projects in this category.
Climate Change Adaptation	-Microgrid Componentry -Microgrid R&D	The Company is still in the process of measuring the environmental impact of the projects in this category.
Pollution Prevention and Control	-End of Life Recycling Activity	• 98% of products by weight that are sold are either recyclable or reusable • 13.6 metric tonnes (MT) of weight of end-of-life material recovered and avoided landfill as of 2019.
Green Buildings		Bloom's headquarters were LEED certified to Level Gold in Q3 2018 . The certification process resulted in the following measurable environmental effects: • The building is reducing its indoor potable water use by at least 40% compared to the baseline building performance. • Irrigation and outdoor water uses are reducing potable water use by at least 50% compared to similar landscaped area. • Core and Shell building is reducing its energy consumption by 28% compared to similar baseline building. • The project was able to divert at least 75% of its construction and demolition waste from the landfill during the construction phase. -At least 20% of the buildings material (by cost) were sourced from recycled content. • At least 20% of the building materials (by cost) were harvested and manufacturer within 500 miles of the project site. • 90% or more of the floor areas have direct line of sight to the outdoors. • 75% or more of the floor plan has at least 25 footcandles of daylight during typical occupancy hours.
Total Allocated		63.0
Total Funds Raised		230
Total Unallocated		167.0

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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.

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