CALIFORNIA ALTERNATIVE ENERGY AND
ADVANCED TRANSPORTATION FINANCING AUTHORITY

Consideration of Bloom Energy Corporation's Request to Approve a Time Extension for the Three Year Initial Term of the Title Conveyance Agreement

Bloom Energy Corporation
Resolution No. 10-SM015

Tuesday, October 20, 2015

Prepared By: *James Shimp, Analyst*

Applicant – Bloom Energy Corporation

Location – Sunnyvale, Santa Clara County

Industry – Solid Oxide Fuel Cell Systems Manufacturing

Project – Expansion of fuel cell manufacturing Facility

Value of Qualified Property – $37,447,693

Estimated Sales and Use Tax Exclusion Amount[1] – $3,153,096

Amount of Time Requested:
- Two years (24 months) for the Term of the Title Conveyance Agreement (seven years from the date of initial CAEATFA Board approval)

SUMMARY

In November 2010, the CAEATFA Board approved a sales and use tax exclusion ("STE") for Bloom Energy Corporation ("Bloom" or the "Applicant") for the purchase of $37,447,693 of Qualified Property for the expansion of a fuel cell manufacturing facility (the "Project"). The Master Regulatory and Title Conveyance Agreement ("Agreement") initial term provided the Applicant with three years from the date of Board Approval to utilize its STE award. The initial term of the Agreement can be extended by the Board upon a finding that an extension is in the public interest and advances the purposes of the Program.[2] In September 2013, the Applicant sent CAEATFA a letter requesting a two year extension of the initial term, which was granted by the Board at the October 2013 meeting.

As of October 1, 2015, Bloom has conveyed $29,241,987 of Qualified Property. In August 2015, CAEATFA staff sent the Applicant a courtesy reminder of the end of the two-year extension of

[1] This amount is calculated based upon the average statewide sales tax rate of 8.42%.
[2] Regulation Section 10035(b)(1)(A)

the initial term. Bloom responded by requesting an additional extension of the Agreement initial term by two years (24 months). The Applicant states that Project development is proceeding in line with projections made during the original application in 2010. However, the timeline to purchase some of the equipment has been delayed by two factors. First, improvements in technology have allowed Bloom to meet customer demand using a smaller manufacturing footprint. Second, the Applicant has been successful in extending the useful lifespan of some of its critical manufacturing equipment. As demand continues to grow, Bloom does anticipate demand to outstrip these process efficiencies, at which time it will need to make additional capital outlays. For this reason, the Applicant fully anticipates using its entire $37,447,693 award. Extending the initial term by two years will allow time for Bloom to grow its customer base and make associated capital purchases.

About the Applicant

Bloom Energy Corporation was incorporated on January 18, 2001 in Delaware. Bloom manufactures on-site power generation systems ("Energy Servers") that, according to the Applicant, utilize a new fuel cell technology with roots in NASA's Mars program. The Applicant claims that "by leveraging breakthrough advances in materials science, Bloom Energy Servers are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions." Bloom Energy Servers are capable of running on both renewable and fossil fuels. By using fossil fuels more efficiently, without combustion and by supporting renewable fuels like biogas, Bloom claims its systems produce fewer emissions than other fuel cell technologies.

Project Description

To date, Bloom has used approximately 80% of its award for the expansion of its Energy Servers manufacturing facility. Energy Servers are devices that directly convert fuel into electricity, and can do so on a distributed generation basis, which avoids the need for transmission and distribution of electricity. Distributed generation refers to power generation at the point of consumption.

Each Energy Server consists of thousands of Bloom's fuel cells. Each cell is a flat solid ceramic square made from a common sand-like "powder." In an Energy Server, multiple stacks are aggregated into a "power module," and then multiple power modules, along with a common fuel input and electrical output are assembled as a complete system. Each Energy Server provides 100kW of power, enough to meet the baseload needs of 100 average homes or a small office building. The Energy Servers can use either natural gas or biogas as the fuel base. Bloom installs and handles all management and maintenance of their systems.

This technology has been developed and manufactured in California to date in large part because of the large market and favorable business environment in the State for manufacturers of clean technology. The high cost of business in the State has led to recent evaluation of alternative manufacturing locations overseas. However, the economic advantages brought through elimination in the sales tax is a strong incentive for Bloom to keep and expand its manufacturing located in California.

Agreement Term Extension Request

Bloom has requested that the initial term of the Agreement be extended from November 17, 2015 to November 17, 2017 in order to allow the Applicant additional time to grow customer demand, and then select, acquire, and install remaining equipment.

Staff Evaluation

Bloom has indicated that their Project is progressing, and will be completed as outlined in the original application. Delays to the purchasing timeline reflect the Applicant's successes in improving efficiency beyond projections, meeting customer demand with a smaller footprint, and decreasing equipment turnover. Based on this information, staff believes that extending the term of the Agreement will allow for continued success, and is therefore in the public interest and advances the purpose of the program.

Staff Recommendation

Staff recommends that the Board approve Bloom's request to extend the initial term of the Agreement by two years (24 months) to November, 2017 as it is in the public interest and advances the purpose of the program.

Attachments

Attachment A: Bloom Energy Corporation's Letter Requesting Waiver (September 18, 2015)
Attachment B: Bloom Energy Corporation Staff Summary at Time of Approval

A RESOLUTION OF THE CALIFORNIA ALTERNATIVE ENERGY AND ADVANCED TRANSPORTATION FINANCING AUTHORITY APPROVING A TIME EXTENSION FOR BLOOM ENERGY CORPORATION'S INITIAL TERM FOR THE MASTER REGULATORY AND TITLE CONVEYANCE AGREEMENT

October 20, 2015

WHEREAS, on November 17, 2010 the California Alternative Energy and Advanced Transportation Financing Authority (the "Authority"), a public instrumentality of the State of California, approved a Sales Tax Exclusion ("STE") in the amount of $37,447,693 of Qualified Property for **Bloom Energy Corporation** (the "Applicant"); and

WHEREAS, within three years of the approval by the Authority, the Applicant must make all purchases of the total amount of Qualified Property listed in the approval resolution (Regulations Section 10035(b)(1));

WHEREAS, upon a finding that it is in the public interest and advances the purposes of the Program, the Authority may waive the requirement that all purchases of Qualified Property be made within three years of Application approval (Regulations Section 10035(b)(1)(A));

WHEREAS, the Applicant had requested and was granted a waiver of the requirement to purchase all of the Qualified Property within three years, due to increases in process efficiency and equipment lifespan, extending the term by two years from November 17, 2013 to November 17, 2015;

WHEREAS, the Applicant has requested a waiver of the requirement to purchase all of the Qualified Property within five years, due to additional increases in process efficiency and equipment lifespan, and requests extension of the term from November 17, 2015 to November 17, 2017; and

WHEREAS, granting the waiver will allow the Project to proceed and the state to receive the anticipated environmental and economic benefits that justified the initial approval of the Project in accordance with the law, thereby advancing both the public interest and the purposes of the Program.

NOW THEREFORE BE IT RESOLVED by the California Alternative Energy and Advanced Transportation Financing Authority, as follows:

Section 1. The Authority finds that it is in the public interest and advances the purposes of the Authority to extend the initial term of the Agreement to November 17, 2017.

Section 2. This resolution shall take effect immediately upon its passage.

Attachment A: Bloom Energy Corporation's Letter Requesting Waiver (September 18, 2015)

Bloomenergy

September 18, 2015

Ms. Deana Carrillo
CAEATFA
915 Capitol Mall, Room 457
Sacramento, CA 95814

Dear Ms. Carrillo,

Thank you for your letter regarding Bloom's CAEATFA Qualified Property (QP) conveyance to date, and for CAEATFA's consideration of an extension of Bloom Energy's timeline to convey our remaining QP.

As of August 31th, 2015 Bloom Energy had conveyed 83% or $31.3M of the $37.4M in QP identified in our CAEATFA application. We are very pleased with the progress and benefits that have been afforded Bloom with this critical program. That said, Bloom Energy does not anticipate that we will complete the conveyance of our $37.4 million in QP by November 17th, 2015 as anticipated, and we therefore are seeking a waiver for extension of the program for an additional 2-years.

Since our 2010 application, Bloom Energy has made significant advances in both the technology of our Alternative Source energy generation products that we sell to our customers, as well as the processes and technologies of the equipment used to manufacture those products. As a growth-oriented, California based company, Bloom Energy has very much appreciated CAEATFA's support that has allowed us to deploy latest generation manufacturing technologies creating our state-of-the-art Alternative Source energy manufacturing facilities.

I am pleased to report that over the past five years Bloom Energy's development plans have been in line with what was expected in 2010 when the company originally considered the CAEATFA program. However, since the program began in 2010, a couple of primary factors have extended the timeline across which the company has acquired the capital required to build our business. We referenced these factors during our extension request waiver in 2013, and while these points are good news for Bloom Energy's business, we recognize that they have resulted in a slower pace of QP conveyance rate than initially projected. First, as both the energy density of Bloom Energy's products has increased and as manufacturing process efficiency has improved with the introduction of new technologies, the company has been able to meet the growth in customer demand with both greater capital efficiency and a smaller manufacturing footprint than initially anticipated. Secondly, by diligently maintaining and retrofitting equipment as necessary, the company has been able to extend the life of a number of the Bloom Energy's manufacturing assets.

While the factors summarized above have enabled Bloom Energy to reduce the pace at which Bloom is acquiring Qualified Property capital purchases, we do anticipate procuring the full $37.4 million originally identified in order to build the capacity that will be needed to meet our customer demand. Given the progress we have made to achieve 83% of our conveyance target, Bloom is clearly marching towards our $37.4M conveyance commitment. An extension of Bloom Energy's conveyance deadline from November 17, 2015 to November 17, 2017 will allow Bloom Energy to continue to acquire our remaining QP under the CAEATFA program at a rate that is in line with our business expansion plans. We look forward to continuing to build our business in the State of California with CAEATFA's support.

Thank you for your consideration of this extension request.

Sincerely,

Mark Mesler
Senior Director of Finance

1252 Orleans Drive, Sunnyvale, CA 94089 T 408 543 1500 F 408 543 1501 www.bloomenergy.com

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Attachment B: Bloom Energy Corporation Staff Summary at Time of Approval

CALIFORNIA ALTERNATIVE ENERGY AND ADVANCED TRANSPORTATION FINANCING AUTHORITY

Request to Approve Project for SB 71 Sales and Use Tax Exclusion[3]

BLOOM ENERGY CORPORATION
Application No. 10-SM015

Wednesday, November 17, 2010

Prepared By: *Heather Williams*

SUMMARY

Applicant – Bloom Energy Corporation

Location – Sunnyvale, Santa Clara County

Industry – Fuel Cells

Project – Expansion of fuel cell manufacturing Facility

Value of Qualified Property – $37,447,693

Estimated Sales and Use Tax Exclusion Amount[4] – $3,407,740

Application Score –

Fiscal Benefits Points:	3,270
Environmental Benefits Points:	165
Net Benefits Score:	**3,435**
Additional Benefits Points:	80
Total Score:	**3,515**

Staff Recommendation – Approval

THE APPLICANT

Bloom Energy Corporation ("Bloom") was incorporated on January 18, 2001 in Delaware. Bloom manufactures on-site power generation systems ("Energy Servers") that according to the

[3] All capitalized terms not defined in this document are defined in the Program's statue and regulations.
[4] This amount is calculated based off of the average statewide sales tax rate of 9.1%.

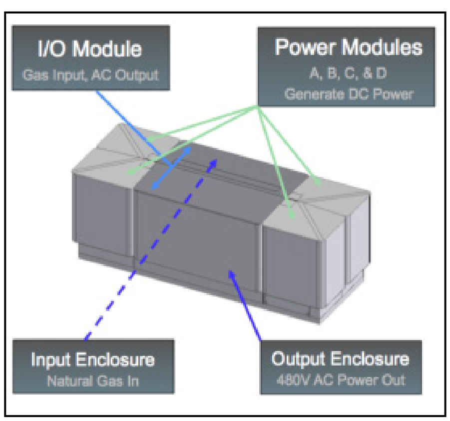
Applicant utilize a new fuel cell technology with roots in NASA's Mars program. The Applicant claims that "by leveraging breakthrough advances in materials science, Bloom Energy Servers are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions." Bloom Energy Servers are capable of running on both renewable and fossil fuels. By using fossil fuels more efficiently, without combustion and by supporting renewable fuels like biogas, Bloom claims its systems produce fewer emissions than other fuel cell technologies.

The major shareholders (10.0% or greater) of Bloom are:	The corporate officers of Bloom are:
Kleiner Perkings Caufield & Byers New Enterprise Associates	KR Sridhar – CEO William Kurtz – CFP George Nguyen – COO

THE PROJECT

Bloom is currently planning the expansion of its manufacturing output of its Energy Servers. Energy Servers are devices that directly convert fuel into electricity, and can do so on a distributed generation basis which avoids the need for transmission and distribution of electricity. Distributed generation refers to power generation at the point of consumption. Each Energy Server consists of thousands of Bloom's fuel cells. Each cell is a flat solid ceramic square made from a common sand-like "powder." In an Energy Server, multiple stacks are aggregated into a "power module," and then multiple power modules, along with a common fuel input and electrical output are assembled as a complete system. Each Energy Server provides 100kW of power, enough to meet the baseload needs of 100 average homes or a small office building. The Energy Servers can use either natural gas or biogas as the fuel base. Bloom installs and handles all management and maintenance of their systems.

This technology has been developed and manufactured in California to date in large part because of the large market and favorable business environment in the State for manufacturers of clean technology. The high cost of business in the State has led to recent evaluation of alternative manufacturing locations overseas. However, the economic advantages brought through elimination in the sales tax is a strong incentive for Bloom to keep and expand its manufacturing located in California.



Bloom Energy Server

ANTICIPATED COSTS OF QUALIFIED PROPERTY

The anticipated Qualified Property purchases are listed below:

Coating equipment for SOFC component manufacturing	$ 664,877
Furnaces for the manufacture of SOFC-based electricity generators	16,380,943
Equipment to monitor required product and assembly environment specifications	2,692,658
SOFC generator assembly equipment	465,422
Repair and overhaul capital equipment	562,156
Manufacturing engineering equipment	7,704,819
Manufacturing information technology	3,879,631
Manufacturing facilities capital expenditure upgrades	3,661,898
Guards, screens and fences for worker safety	1,435,290
Total	**$37,447,693**

Note: The Qualified Property purchases reported in the Application and shown here in staff's report are estimated costs. At the termination of the conveyance/reconveyance agreement a finalized project equipment list will be prepared detailing the value of the Project equipment conveyed and reconveyed and detailing the actual tax benefit realized pursuant to Revenue and Tax Code Section 6010.8. Variations from the costs shown in the Application and in this report may occur prior to the closing due to increased costs of certain components of the Project from original estimates, and other reasons. In addition, such costs may vary after closing due also to increased costs, as well as common design and equipment modifications during construction, differences in equipment due to future changes in law or regulation or for other reasons.

TIMELINE

Bloom Energy is in the process of rolling out its manufacturing capacity in multiple stages. After the passage of SB 71, Bloom decided to embark upon the initial round of manufacturing expansion, forecasted to be completed in early 2011. The total Qualified Property identified in this application will be used in additional manufacturing expansion efforts, beginning on 11/17/2010 and concluding by 12/31/2013.

PROJECT EVALUATION

NET BENEFITS

The total cost of the Qualified Property purchases is anticipated at $37,447,693 and the total net benefits are valued at $8,298,503 for the Project. The Project received a Total Score of 3,515 which exceeds the required 1,000 point threshold and a total Environmental Benefits Score of 165 which exceeds the 100 point threshold.

A. **Fiscal Benefits (3,270 points):** The net present value of the total fiscal benefits over the lifetime of the Qualified Property is derived from the Company' s sales taxes, personal income taxes, firm taxes on profits, property taxes and other indirect fiscal benefits of the Applicant which amounts to $11,144,189 resulting in a Fiscal Benefits Score of 3,270 points for the Project.

B. **Environmental Benefits (165 points):** The project results in $562,054 of total pollution benefits over the life of the Facility resulting in an Environmental Benefits Score of 165 points for the Project. These benefits derive from the capacity of the fuel cells to generate electricity from alternative sources, thereby reducing the need for traditionally generated electricity.

C. **Additional Benefits (80 of 200 points):** Applicants may earn up to 200 additional points for their Total Score. The Applicant submitted information and received 80 additional points.

- **a.** **Permanent Jobs (40 of 40 points).** The Applicant's Project will support a total of 994 permanent jobs at their Facility. CAEATFA estimates that approximately 82 of these jobs will be attributable to a marginal increase in jobs created due to the approved STE resulting in a Permanent Jobs Score of 40 points for the Project.

- **b.** **Construction Jobs (0 of 20 points).** The Applicant's Project will support a total of 10 construction jobs at their Facility. CAEATFA estimates that approximately 1 of these jobs will be attributable to a marginal increase in jobs created due to the approved STE. 0 points were awarded because the marginal increase in jobs created does not meet the required threshold.

- **c.** **Process Improvement (0 of 40 points):** The Applicant provided documentation in which they certify the Project had substantial process improvement in the areas of energy use, water use and atmospheric emissions. Documentation included information provided in the Applicant Notes section of the Application worksheet. CAEATFA has not evaluated this documentation further, as the Applicant has already obtained the minimum point threshold necessary to qualify. Thus no additional points were awarded in this category.

- **d.** **Non-CA Environmental Benefits (40 of 40 points).** The Applicant's total value of out-of-state non-greenhouse gas pollution benefits are valued at $321,558 resulting in a Non-CA Environmental Benefits Score of 40 points for the Project.

STATUS OF PERMITS/OTHER REQUIRED APPROVALS

Bloom currently has all of the necessary permits to put the Qualified Property into operation.

LEGAL QUESTIONNAIRE

Staff reviewed the Applicant's responses to the questions contained in the Legal Status portion of the Application. The responses did not disclose any information that raises questions concerning the financial viability or legal integrity of this applicant.

CAEATFA FEES

In accordance with CAEATFA regulations,[5] the Applicant has paid CAEATFA an Application Fee of $5,000 and will pay CAEATFA an Administrative Fee of up to $149,790.

RECOMMENDATION

Staff recommends approval of Resolution No. 10-SM015 for Bloom Energy Corporations purchase of Qualified Property in an amount not to exceed $37,447,693 anticipated to result in an approximate sales and use tax exclusion value of $3,407,616.

[5] California Code of Regulations Title 4, Division 13, Article 2, Section 10036.

RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A TITLE CONVEYANCE AGREEMENT WITH BLOOM ENERGY CORPORATION

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the "Authority") has received the application of **Bloom Energy Corporation** (the "Applicant"), for financial assistance in the form of a conveyance/reconveyance of title agreement (the "Agreement") regarding tangible personal property for the design, manufacture, production or assembly of Advanced Transportation Technologies or Alternative Source products, components, or systems ("Qualified Property") as more particularly described in the staff summary and in the Applicant's Application to the Authority (collectively, the "Project"); and

WHEREAS, the Applicant has requested the Authority to enter into the Agreement transferring title of Project equipment with an cost not to exceed $37,447,693over a period of three years; and

WHEREAS, the Agreement will provide that the Applicant will, prior to any use of the Qualified Property, transfer title at no cost to the Authority from time to time as purchases of Qualified Property are made and the Authority will then transfer title back to the Applicant without having taken possession of the Qualified Property; and

WHEREAS, the Applicant believes that this form of financial assistance will enable it to avail itself of the benefits of an exclusion from sales and use taxes relative to the Qualified Property pursuant to California Revenue and Taxation Code Section 6010.8; and

WHEREAS, approval of the terms of the Agreement and authority for the Executive Director, Deputy Executive Director or Chair, to execute the necessary documents to effectuate the Agreement is now sought;

NOW, THEREFORE, BE IT RESOLVED by the California Alternative Energy and Advanced Transportation Financing Authority, as follows:

<u>Section 1</u>. The Project constitutes a "project" within the meaning of Public Resources Code Section 26003(g)(2).

<u>Section 2</u>. The requested conveyance agreement constitutes "financial assistance" within the meaning of Public Resources Code Section 26003(e)(2).

<u>Section 3</u>. The Applicant is a "participating party" within the meaning of Public Resources Code Section 26003(f).

Section 4. The Executive Director, Deputy Executive Director, or Chair, of the Authority (the "Authorized Signatories") are hereby authorized for and on behalf of the Authority to approve any changes to the Project as the Executive Director shall deem appropriate, provided that the amount of the Qualified Property to be purchased may not be increased above the amount approved by the Authority.

Section 5. The proposed form of the Agreement between the Applicant and the Authority, as filed with the Authority prior to this meeting, is hereby approved. The Authorized Signatories are hereby authorized and directed, for and on behalf and in the name of the Authority, to execute, acknowledge and deliver to the Applicant the Agreement in substantially the form filed with or approved by the Authority, with such insertions, deletions or changes therein as the Authorized Signatory executing the same, may require or approve, and with particular information inserted therein in substantial conformance with the staff summary and in the Applicant's Application to the Authority, such approval to be conclusively evidenced by the execution and delivery thereof. The Authority understands and agrees that pursuant to the terms of the Agreement, the obligations of the Applicant may, under some circumstances be carried out or assumed by a successor or assignee entity, or by an affiliate of the Applicant.

Section 6. Each of the Authorized Signatories, acting alone, is hereby authorized and directed to do any and all ministerial acts, including (without limitation) the execution and delivery of any and all documents and certificates they may deem necessary or advisable in order to consummate the Agreement and otherwise effectuate the purposes of this resolution.

Section 7. The Applicant shall assure CAEATFA that all Qualified Property conveyance pursuant to the Agreement shall be installed, maintained and operated in compliance with all applicable local, state and federal laws.

Section 8. The Agreement shall only apply to Qualified Property that the Applicant certifies will be installed, maintained and operated at facilities within the State of California.

Section 9. The adoption by the Authority of this Resolution for the Applicant shall not be referred to in any application before any governmental agency as evidence of the feasibility, practically or suitability of the Project or in any application for any required permission or authority to acquire, construct or operate the Project.

Section 10. This Resolution is effective immediately and will remain in full force and effect unless the Regulatory Agreement, as defined in CAEATFA Regulations Section 10035(A), is not executed within thirty (30) days of the date of this Resolution. The Executive Director may extend the thirty days if necessary.