Agenda Item – 4.F.17
Resolution No. 20-SM014
Application No. 20-SM014

CALIFORNIA ALTERNATIVE ENERGY AND ADVANCED TRANSPORTATION FINANCING AUTHORITY

Request to Approve Project for Sales and Use Tax Exclusion (STE)[1]

Lam Research Corporation
Application No. 20-SM014

Tuesday, March 17, 2020

Prepared By: *Ashley Emery, Program Manager*

SUMMARY

Applicant – Lam Research Corporation

Location – Fremont and Livermore, Alameda County

Industry – Semiconductor Fabrication Equipment Manufacturing

Project – Update and Expansion of Existing Semiconductor Fabrication Equipment Manufacturing Facility (Advanced Manufacturing)

Value of Qualified Property – $119,617,224

Estimated Sales and Use Tax Exclusion Amount[2] – $10,000,000

Competitive Criteria Score – 70

Application Score –

Fiscal Benefits Points:	2,323
Environmental Benefits Points:	80
Net Benefits Score:	**2,403**
Additional Benefits Points:	80
Total Score:	**2,483**

Staff Recommendation – Approval

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[1] All capitalized terms not defined in this document are defined in the Program's statute and regulations.
[2] This amount is calculated based on the average statewide sales tax rate of 8.36%.

THE APPLICANT

Lam Research Corporation ("Lam" or the "Applicant") is a Delaware corporation that formed in 1980 and is publicly traded under the symbol LRCX. Lam manufactures equipment used to produce semi-conductor chips some of the largest chip manufacturers in the world. Its products fall into four primary categories (see Figure 1):

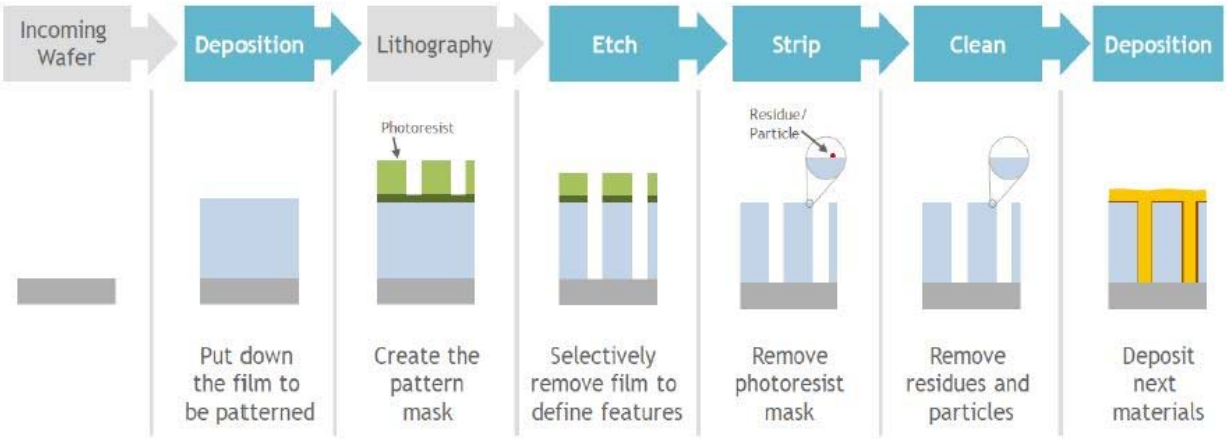
(1) Deposition – the process of constructing layers of insulating and conducting materials used to make a variety of semiconductor devices, such as transistors and interconnects.
(2) Etch – creating the features of the chip by selectively removing layers at a wafer's surface.
(3) Strip & Clean – removing the unwanted material that could later lead to defects.
(4) Mass Metrology – measuring the change in mass following deposition, etch, and cleaning.

The corporate officers of Lam Research Corporation include the following:
Tim Archer, President & Chief Executive Officer
Doug Bettinger, EVP & Chief Financial Officer
Richard Gottscho, EVP & Corporate Chief Technology Officer
Kevin Jennings, SVP, Global Operations
Patrick Lord, SVP & General Manager, Customer Support Business Group
Scott Meikle, SVP Global Customer Operations
Ava Hahn, SVP, Chief Legal Officer & Secretary
Vahid Vahedi, SVP & General Manager, Etch Business Unit
Sesha Varadarajan, SVP & General Manager, Deposition Business Unit
Odette Go, VP & Treasurer

THE PROJECT

Lam Research Corporation is requesting a sales and use tax exclusion to upgrade and expand its existing semiconductor fabrication equipment manufacturing facilities located in Fremont and Livermore (the "Project"). Lam plans to build-out approximately 60,000-70,000 square feet of additional manufacturing space and update its existing production, research, design, quality control and prototyping equipment.

Figure 1: Diagram of Semiconductor Chip Manufacturing Process



Lam explains that, given that its products must produce microchips with features smaller than 1/1,000 the size of a grain of sand, Lam uses high-precision tools and methods in its manufacturing process. For example, Lam states it uses cutting-edge hardware and computer software to design and build its etch systems, which can remove layers from a wafer using charged ion particles and remove layers at the atomic level. The Project will also utilize advanced torque measuring devices that wirelessly communicate the amount of torque used during assembly to the machine operator's computer. Lam states that these measurements are recorded and saved to analyze if a product has an issue in the future. According to Lam, the Project will also utilize advanced science, including the development of highly precise methods for dispensing gas materials use to build and shape microchips, as well as advanced digital modeling capabilities to design its products more efficiently.

The Applicant states the Project will employ advanced robotics and information technology that is anticipated to increase the rate of productivity. For example, Lam uses robotic systems that automatically screw down large and heavy base plates in its etch and deposition products, reducing processing times by roughly 70-80 percent. Additionally, Lam explains that in its production process, gases must be transported within its labs and engineering facilities, and historically, gases were piped in from a nearby facility, and when a different gas was needed, all of the pipe had to be replaced, which would take several days. According to Lam, the Project will utilize a new system that enables multiple pipes to send different gases automatically based on the system operator's keystrokes, eliminating the need to take several days to switch out pipes for different gases.

The Applicant also anticipates the Project will reduce energy use and solid waste compared to its previous manufacturing process. The Project will employ LED lighting and rooftop solar panels to power its facility. Additionally, Lam anticipates being able to recycle approximately 50 percent more foam packaging by utilizing foam densifier machinery and equipment that will enable the Applicant to repurpose packaging materials.

ANTICIPATED COSTS OF QUALIFIED PROPERTY

The anticipated Qualified Property purchases are listed below:

Manufacturing/Production Equipment, Machinery & Related Property		$ 21,000,000
Laboratory Devices, Testing Equipment & Instruments		19,000,000
Logistics, Storage Systems & Related Property		4,000,000
Quality Control & Related Property		5,750,000
Computers, IT & Robotics Property		4,500,000
Design, Engineering, Research & Development Property		18,750,000
Buildout of Facilities, Upgrades & Real Property Improvements		46,617,224
	Total	**$119,617,224**

Note: The Qualified Property purchases reported in the Application and shown here in staff's report are estimated costs. At the termination of the master regulatory agreement a finalized project equipment list will be prepared detailing the value of the Project equipment acquired and the actual tax benefit realized pursuant to Revenue and Tax Code Section 6010.8. Variance 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) over 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

The Applicant plans to begin construction for the project later this year, with substantial completion by the end of 2021. The Applicant plans to begin equipment purchases in Q1 of 2020 and finish the Project in the next 24-30 months.

COMPETITVE CRITERIA SCORE

In the event that CAEATFA receives Applications in excess of the statutory $100 million cap for that calendar year, the order in which the Applications shall be considered in the same month will be ranked based on five Competitive Criteria.

The Applicant received 70 Competitive Criteria points as follows:

1. **Environmental Benefits (0 points).** The Applicant's Project did not earn any Total Pollution Benefits points (i.e. did not have environmental benefits that could be monetized and scored pursuant to the Program's regulations[3]), therefore no points are awarded.

2. **Unemployment (0 of 50 points).** The Applicant's Project is located in Alameda County, which has an average annual unemployment rate of 2.9 %. When compared

[3] California Code of Regulations Title 4, Division 13, Section 10033(c)(4)

to the statewide average annual unemployment rate, which was 4.1% in 2019, the dataset used in the Application, the Project location earned the Applicant an Unemployment Score of zero points.

3. **Job Creation (55 of 75 points).** The Applicant represents that the Project will support a total of 2,645 production-related jobs at its Facility. CAEATFA estimates that approximately 67 of these jobs will be attributable to a marginal increase in jobs created due to the STE. Based on the amount of STE per estimated number of jobs created, the Applicant earned 55 points.

4. **California Headquarters (15 points)**. The Applicant has a California Corporate Headquarters, therefore 15 points are awarded.

5. **Natural Disaster Relief (0 points).** The Project is not to rebuild or relocate the Applicant's Facility due to a fire, flood, storm, or earthquake identified in the state of emergency proclamation made by the California State Governor within two years of the time of application, therefore zero points are awarded.

PROJECT EVALUATION

NET BENEFITS

The Project received a Total Score of 2,483 points, which exceeds the required 1,000-point threshold, and a total Environmental Benefits Score of 80 points, which exceeds the 20-point threshold

A. **Fiscal Benefits (2,323 points).** The net present value of the total fiscal benefits over the lifetime of the Qualified Property is derived from the Applicant's sales taxes, personal income taxes paid by the firm's employees, firm taxes on profits, property taxes, and other indirect fiscal benefits of the Applicant, which amounts to $23,229,619, resulting in a Fiscal Benefits score of 2,323 points for the Project.

B. **Environmental Benefits (80 points).** The Project earned an Environmental Benefits Score of 80. The Applicant received points in the following categories:

    1. **Environmental Sustainability Plan (20 of 20 points).** The Applicant has an environmental sustainability plan which seeks to reduce its GHG intensity, such as by reducing energy use and utilizing renewable energy sources.

    2. **Energy Consumption (30 of 30 points).** The Applicant anticipates the Project will result in a 30% reduction in energy consumption compared to the Applicant's previous manufacturing process due to the implementation high-efficiency LED lighting and solar panels.

3. **Solid Waste (30 of 30 points).** The Applicant anticipates the Project will result in a 50% reduction in solid waste produced relative to the Applicant's previous manufacturing process through the use foam densifying equipment that will enable the Applicant to repurpose packaging materials.

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

1. **Production Jobs (55 of 75 points).** The Applicant represents that the Project will support a total of 2,645 production-related jobs at its Facility. CAEATFA estimates that approximately 67 of these jobs will be attributable to a marginal increase in jobs created due to the STE. Based on the amount of STE per estimated number of jobs created, the Applicant earned 55 points.

2. **Construction Jobs (0 of 75 points).** The Applicant represents that the Project will support a total of 40 construction jobs at its Facility. CAEATFA estimates that approximately one of these jobs will be attributable to a marginal increase in jobs created due to the STE. Based on the amount of STE per estimated number of jobs created, the Applicant earned zero points.

3. **Unemployment (0 of 50 points).** The Applicant's Project is located in Alameda County, which has an average annual unemployment rate of 2.9 %. When compared to the statewide average annual unemployment rate, which was 4.1% in 2019, the dataset used in the Application, the Project location earned the Applicant an Unemployment Score of zero points.

4. **Research and Development Facilities (25 points).** The Applicant has verified that it has a facility located in California that performs research and development functions related to semiconductor manufacturing equipment.

STATUS OF PERMITS/OTHER REQUIRED APPROVALS

According to the Applicant, all necessary building, installation and operational permits have been obtained or will be obtained prior to Project completion.

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,[4] the Applicant has paid CAEATFA an Application Fee of $10,000 and will pay CAEATFA an Administrative Fee of up to $350,000.

RECOMMENDATION

Staff recommends approval of Resolution No. 20-SM014 for Lam Research Corporation's purchase of Qualified Property in an amount not to exceed $119,617,224, anticipated to result in an approximate sales and use tax exclusion value of $10,000,000.

[4] California Code of Regulations Title 4, Division 13, Section 10036

RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A MASTER REGULATORY AGREEMENT WITH LAM RESEARCH CORPORATION

March 17, 2020

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the "Authority" or "CAEATFA") has received the Application of **Lam Research Corporation** (the "Applicant"), for financial assistance in the form of a master regulatory agreement (the "Agreement") regarding tangible personal property utilized in an Advanced Manufacturing process or 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 to acquire Project equipment with an estimated cost not to exceed $119,617,224 over a period of three years; 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 of the Authority 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:

Section 1. The Project constitutes a "project" within the meaning of Public Resources Code Section 26003(a)(8)(B).

Section 2. The requested master regulatory agreement constitutes "financial assistance" within the meaning of Public Resources Code Section 26003(a)(6).

Section 3. The Applicant is a "participating party" within the meaning of Public Resources Code Section 26003(a)(7).

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 listed in the semi-annual reports 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, practicality 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.