

**CALIFORNIA ALTERNATIVE ENERGY AND
ADVANCED TRANSPORTATION FINANCING AUTHORITY**

Board Meeting Date: Tuesday, June 17, 2025

Request to Approve Project for a Sales and Use Tax Exclusion¹

**AEM Americas, Inc.
Application No. 25-SM013**

Prepared By: *Willy Chen, Program Analyst*

SUMMARY

Applicant: AEM Americas, Inc.

Location: Carlsbad, San Diego County

Industry: Ceramic Substrate Heaters & Thermal Subsystems Manufacturing

Project: New Multilayer Ceramic Heaters & Thermal Subsystems Manufacturing Facility
(Advanced Manufacturing)

Project Pool: Small

Value of Qualified Property	Estimated Sales and Use Tax Exclusion (“STE”) Amount ²
\$4,498,100	\$381,439

Estimated Net Benefit ³	Dollar Value	Points Earned
Estimated Fiscal Benefits	\$676,110	1,773
Estimated Environmental Benefits	N/A	60
Additional Benefits	N/A	185
Total	\$676,110	2,018
Estimated Quantifiable Net Benefit	\$294,671	N/A

Competitive Criteria Score: 120

Staff Recommendation: Approval

¹ All capitalized terms not defined in this document are defined in the STE Program’s statutes and regulations.

² This amount is calculated based on the average statewide sales tax rate of 8.48%.

³ Applications that earn a Total Score of at least 1,000 points and an Environmental Benefits Score of over 20 points may be recommended for approval. (California Code of Regulations Title 4, Division 13, Section 10033(c)(6).)

THE APPLICANT

AEM Americas, Inc. (the “Applicant”), formed in California as a corporation in 2022. The Applicant is headquartered in Singapore and specializes in the design and production of custom multi-layer, multi-zone ceramic heater products for the semiconductor industry.

The major shareholders (10.0% or greater) of the Applicant are:

- AEM Singapore, PTE, Ltd. (100%)

The corporate officers of the Applicant are:

- Chunyi Yin (Amy) Leong, Chief Executive Officer
- Tat Ming Chua, Chief Operating Officer
- Form Po Chi, Corporate Secretary
- Samer Kabbani, Chief Technology Officer

THE PROJECT

AEM Americas, Inc. requests a sales and use tax exclusion (“STE”) award to build a new ceramic substrate heater and thermal sub-system manufacturing facility located in Carlsbad (the “Project”).

According to the Applicant, it intends on producing custom multilayer, multizone aluminum nitride heaters. The Applicant states these high-performance heaters are essential for semiconductor applications such as wafer testing and chip packaging. To achieve this, the Applicant is integrating sophisticated materials engineering, precision manufacturing tools, and intelligent automation systems such as laser scanners, viscometers, and particle size analyzers. The facility will use high-accuracy equipment to ensure quality control and will incorporate rapid prototyping technologies to accelerate product development and improve efficiency.

The Applicant states that its thermal sub-systems are intricate electro-mechanical-thermal assemblies that play a critical role in semiconductor assembly and test equipment. These systems are designed by the Applicant’s engineering team. A significant percentage of the heaters manufactured by the Applicant are integrated into these thermal sub-systems, underscoring their importance in the Applicant’s overall product portfolio.

In addition to boosting manufacturing capacity, the Project prioritizes innovation and sustainability. The Applicant is implementing data-driven technologies to streamline operations, improve equipment maintenance, and support the ongoing development of more energy-efficient materials. The Applicant plans to develop next-generation materials with lower processing temperatures, which will reduce energy use and environmental impact.

Anticipated Costs of Qualified Property

Anticipated Qualified Property Purchases	Cost
Firing Operation Equipment	\$1,894,700
Manufacturing Equipment	\$891,400
Metrology Equipment	\$132,000
Post-Firing Equipment	\$700,000
Green Line Equipment	\$830,000
Engineering Equipment	\$50,000
Total	\$4,498,100

Note: The Qualified Property purchases reported in the Application and shown here in staff's report are estimated costs. In accordance with the Regulatory Agreement, a finalized Project equipment list will be prepared detailing the value of the Project equipment actually acquired, and the estimated 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, those costs may vary after closing due to increased costs, as well as common design and equipment modifications during construction, differences in equipment due to future changes in statute or regulation, or for other reasons.

Timeline

According to the Applicant, equipment facilitation will begin in July 2025, and equipment installation and commissioning are to follow from August to September 2025.

Technology and process development will take place between September 2025 and March 2026 to ensure seamless integration of advanced manufacturing systems. The Applicant anticipates production will commence in March 2026, with the first revenue-generating shipments scheduled for the same month.

Status of Permits/Other Required Approvals

According to the Applicant, it obtained the business permit from the City of Carlsbad in April 2025. Additionally, the Applicant submitted requests for electrical permits from San Diego Gas & Electric and the City of Carlsbad, which are in the approval process as of May 2025. The Applicant is working with its contractor on equipment facilitation to determine if any other permits are needed.

COMPETITIVE CRITERIA SCORE

The Applicant received 120 Competitive Criteria points as follows:

1. **Environmental Benefits (0 of 100 points)**. The Application does not have a Recycled Resource Extraction Project or Project that produces an Advanced Transportation Technology or an Alternative Source product, component, or system. Therefore, no points are awarded.
2. **Unemployment (0 of 50 points)**. The Applicant's Project is located in San Diego County, which has an average annual unemployment rate of 4.5%.⁴ When

⁴ Unemployment rates are based on data available in October 2024.

compared to the statewide average annual unemployment rate of 5.3%, the Project location earned the Applicant zero points.

3. **Job Creation (45 of 75 points)**. The Applicant anticipates the Project will support a total of 30 production-related jobs at its Facility. CAEATFA estimates that approximately 2.11 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 45 points.
4. **California Headquarters (0 of 15 points)**. The Applicant does not have a California Corporate Headquarters, zero points awarded.
5. **Natural Disaster Relief (0 of 50 points)**. The Project is not to rebuild or relocate the Applicant's Facility due to a fire, flood, storm, or earthquake identified in a state of emergency proclaimed by the Governor within two years of the time of application, and, therefore, zero points are awarded.
6. **Eligibility for Manufacturing and Research and Development Equipment Exemption (0 of 50 points)**. The Applicant is eligible to use one or more of the exemptions established pursuant to Section 6377.1 of the Revenue and Taxation Code, and, therefore, zero points are awarded.
7. **Emerging Strategic Industry (75 of 75 points)**. The Project's industry, ceramic substrate heaters for semiconductors and thermal subsystems, is in an Emerging Strategic Industry, as defined by CAEATFA, 75 points are awarded.

PROJECT EVALUATION

Project Benefits

The Project received a Total Score of 2,018 points, which exceeds the required 1,000-point threshold, and included an Environmental Benefits Score of 60 points, exceeding the 20-point threshold.

1. **Fiscal Benefits (1,773 points)**. The net present value of the total fiscal benefits over the lifetime of the Qualified Property is derived from the Applicant's sales and use taxes, personal income taxes paid by the firm's employees, firm taxes on profits, property taxes, and other indirect fiscal benefits of the Applicant. The total fiscal benefits amount to \$676,040, resulting in a Fiscal Benefits score of 1,773.
2. **Environmental Benefits (60 points)**. The Project earned an Environmental Benefits Score of 60. The Applicant received points in the following categories:
 - A. **Environmental Sustainability Plan (5 of 5 points)**. The Applicant has an environmental sustainability plan that focuses on reducing water, energy, and solid waste consumption.

- B. Energy Consumption (25 of 30 points).** The Applicant anticipates the Project will result in a 25% reduction in energy consumption compared to the industry standard manufacturing process. This will be achieved by using custom-designed, energy-efficient high temperature oven that incorporates advanced electronics, sensors, and monitoring systems. A computer and recipe-based system controls the technologies optimizing the process to reduce the amount of energy and gases required. Additionally, the new oven features a larger capacity compared to older models, allowing for more material to be processed in each cycle, further contributing to energy savings.
- C. Hazardous Waste (30 of 30 points).** The Applicant anticipates the Project will result in a 100% reduction in the hazardous waste produced relative to the industry standard manufacturing process. This will be achieved by eliminating the need for a chemical bath plating operation, which is typically associated with hazardous waste generation in the manufacturing of heaters. As a result, the hazardous waste typically associated with nickel and gold electrochemical bath processes used by competitors are not necessary.
- 3. Additional Benefits (185 points).** Applicants may earn “Additional Benefits” points in the categories listed below. The Applicant received 185 Additional Benefits points.
- A. Production Jobs (45 of 75 points).** The Applicant anticipates the Project will support a total of 30 production-related jobs at its Facility. CAEATFA estimates that approximately 2.11 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 45 points.
- B. Construction Jobs (0 of 75 points).** The Applicant anticipates the Project will support a total of one construction job at its Facility. CAEATFA estimates that approximately 0.07 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.
- C. Unemployment (0 of 50 points).** The Applicant’s Project is located in San Diego County, which has an average annual unemployment rate of 4.5%. When compared to the statewide average annual unemployment rate of 5.3%, the Project location earned the Applicant zero points.
- D. Research and Development Facilities (25 of 25 points).** The Applicant has verified that it has a facility located in California that performs research and development functions related to the design, prototype, and assembly of thermal sub-systems.
- E. Workforce Partnerships (25 of 25 points).** The Applicant has a partnership with San Diego Regional EDC Advancing Workforce Programs, UC San Diego,

and San Diego State University for the purpose of assisting in the training of potential future workers.

- F. Industry Cluster (25 of 25 points).** The industry associated with this Application has been identified by California Governor's Office of Business and Economic Development and San Diego Regional EDC as an industry cluster of the region of the Project's location.
- G. Benefits and Fringe Benefits (25 of 25 points).** The Applicant states it provides medical, health, dental, & vision benefits, bonuses, retirement contributions, profit sharing, dependent care & assistance reimbursement, education reimbursement, employee discounts, and paid leave to its employees, earning the Applicant 25 points.
- H. Emerging Strategic Industry (40 of 40 points).** The Project's industry, ceramic substrate heaters for semiconductors and thermal subsystems, is in an Emerging Strategic Industry, as defined by CAEATFA, earning the Applicant 40 points.

LEGAL STATUS QUESTIONNAIRE

The Applicant had nothing to report on the Legal Status Questionnaire.

CAEATFA FEES

In accordance with STE Program regulations,⁵ the Applicant paid CAEATFA an Application Fee of \$2,272.55 and will pay CAEATFA an Administrative Fee of up to \$17,992.40 should the Applicant be approved for an award.

RECOMMENDATION

Staff recommends the approval of Resolution No. 25-SM013-01 for AEM Americas, Inc.'s purchase of qualifying tangible personal property in an amount not to exceed \$4,498,100, anticipated to result in an approximate STE value of \$381,439. The initial term of the Regulatory Agreement will be for a period of three years, until June 17, 2028, and the remainder shall be for a period of five years, until June 17, 2030, for providing annual compliance reports.

⁵ California Code of Regulations Title 4, Division 13, Section 10036

**RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A
REGULATORY AGREEMENT WITH AEM AMERICAS, INC.**

June 17, 2025

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the “Authority”) has received the Application of **AEM Americas, Inc.** (the “Applicant”) for financial assistance under the Sales and Use Tax Exclusion Program, as established in Public Resources Code Section 26011.8; and

WHEREAS, the Applicant qualifies as a Participating Party under Public Resources Code Section 26011.8 and Revenue and Taxation Code Section 6010.8; and

WHEREAS, the Applicant’s qualifying tangible personal property meets the requirements of a Project under Public Resources Code Section 26011.8 and Revenue and Taxation Code Section 6010.8 (the “Project”); and

WHEREAS, after the Authority approves an Application, the Authority enters into a Regulatory Agreement, as described in Authority Regulations Section 10035(a), with the Applicant for the Project; and

WHEREAS, the Applicant has stated the Project has an estimated cost not to exceed \$4,498,100 over a period of three (3) years; and

WHEREAS, the Applicant asserts 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 Project pursuant to Revenue and Taxation Code Section 6010.8; and

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

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

Section 1. The Regulatory Agreement includes a Project within the meaning of Public Resources Code Section 26003(a)(8)(B).

Section 2. The 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 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 Authorized Signatories deem appropriate, provided that

the amount of the qualifying tangible personal property to be purchased for the Project may not be increased above the amount approved by the Authority.

Section 5. The proposed form of the Regulatory Agreement between the Applicant and the Authority, as filed with the Authority prior to this public meeting, is hereby approved. For, on behalf and in the name of the Authority, the Authorized Signatories are hereby authorized and directed to execute, acknowledge, and deliver to the Applicant the Regulatory Agreement in substantially the form filed with or approved by the Authority.

The Regulatory Agreement may contain insertions, deletions or changes as the Authorized Signatories executing the Regulatory Agreement may require or approve, including particular information inserted in substantial conformance with the staff summary and in the Application to the Authority. The approval of the Regulatory Agreement will be conclusively evidenced by the execution and delivery of the final Regulatory Agreement.

The Authority understands and agrees that, pursuant to the terms of the Regulatory Agreement, the obligations of the Applicant, under some circumstances, may 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 to consummate the Regulatory Agreement and otherwise effectuate the purposes of this Resolution.

Section 7. The Applicant shall ensure that all of the qualifying tangible personal property acquired as part of the Project that is listed in the semi-annual reports provided to the Authority pursuant to the Regulatory Agreement will be installed, maintained and operated in compliance with all applicable local, state and federal laws.

Section 8. The Regulatory Agreement shall only apply to qualifying tangible personal property acquired as part of the Project that the Applicant certifies will be installed, maintained and operated at facilities physically located within the State of California.

Section 9. Neither the adoption by the Authority of this Resolution for the Applicant nor the Regulatory Agreement may be referred to in any application before any governmental agency as evidence of the feasibility, practicality or suitability of the Project and may not be referred to 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 is not executed within thirty (30) days of

Agenda Item – 4.A.16
Resolution No. 25-SM013-01

the date of this Resolution. The Executive Director may extend the thirty (30) days if necessary.