

**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 Exclusion<sup>1</sup>***

**Tandem PV, Inc.  
Application No. 25-SM005**

Prepared By: *Willy Chen, Program Analyst*

**SUMMARY**

**Applicant:** Tandem PV, Inc.

**Location:** Fremont, Alameda County

**Industry:** Solar Photovoltaic Manufacturing

**Project:** New Perovskite-Silicon Solar Panels Manufacturing Facility (Alternative Source)

**Project Pool:** Small

Value of Qualified Property	Estimated Sales and Use Tax Exclusion (“STE”) Amount <sup>2</sup>
\$17,500,000	\$1,484,000

Estimated Net Benefit <sup>3</sup>	Dollar Value	Points Earned
Estimated Fiscal Benefits	\$1,101,178	742
Estimated Environmental Benefits	\$4,382,719	2,953
Additional Benefits	N/A	130
<b>Total</b>	<b>\$5,483,897</b>	<b>3,825</b>
<b>Estimated Quantifiable Net Benefit</b>	<b>\$3,999,897</b>	<b>N/A</b>

**Competitive Criteria Score:** 155

**Staff Recommendation:** Approval

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

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

<sup>3</sup> 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**

Tandem PV, Inc. (the “Applicant”), formed in Delaware as a corporation in 2016. Headquartered in San Jose, California, the Applicant specializes in the production of high-efficiency solar panels. The Applicant has a portfolio of approved patents and patent applications for perovskite ink-related IP, device architecture, durability enhancements, film processing, and product design.

The Applicant was awarded \$10.2 million in research and development grants from the U.S. Department of Energy between 2017 and 2024.

The Applicant was also awarded \$1 million from the California Energy Commission on October 1, 2019 to support the advancement of its high-efficiency solar panel technology.

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

- Eclipse Ventures (21%)
- Bioeconomy Capital (12%)

**The corporate officers of the Applicant are:**

- Colin Bailie, Director
- Scott Wharton, Director
- Rik Wehbring, Director
- Greg Reichow, Director

**THE PROJECT**

Tandem PV, Inc. requests a sales and use tax exclusion (“STE”) award to build a new solar photovoltaic manufacturing facility in Fremont, California (the “Project”).

The Applicant is establishing the Project to produce solar panels for the utility-scale market, serving independent power producers that supply solar energy solutions to utilities. According to the Applicant, the impact of tariffs and domestic-content incentives is driving increased demand for U.S.-made solar panels, and they are actively securing purchase orders from major utility-scale developers. Over the next five years, the Applicant plans to expand its focus to include ground-mounted solar applications, such as community solar projects.

The Applicant is leveraging advanced manufacturing techniques to improve both efficiency and product quality. According to the Applicant, its panels are 30-40% more efficient than conventional silicon panels, leading to less modules being required and overall expenses. Additionally, the production process is environmentally conscious, consuming significantly less energy than traditional methods and avoiding the use of materials with adverse environmental or ethical impacts.

### **Anticipated Costs of Qualified Property**

<b>Anticipated Qualified Property Purchases</b>	<b>Cost</b>
Deposition System	\$6,600,000
Coating System	\$3,950,000
Marking System	\$1,500,000
Glass Washer	\$500,000
Chillers	\$100,000
Conveyors	\$800,000
Ovens	\$550,000
Small Support Equipment & Testing/Lab Equipment	\$1,000,000
Construction Materials & Facility Fixtures	\$2,500,000
<b>Total</b>	<b>\$17,500,000</b>

*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, it is currently in final negotiations for the lease of an approximately 70,000 square foot existing building. The Applicant plans to begin construction in Q2 of 2025 to prepare the site for the Qualified Property, with a place-in-service date estimated to be in October or November of 2025. The Applicant expects the site to be ready for tools by July 2025, with delivery of tools scheduled for August 2025. The Applicant anticipates producing its first product in Q4 of 2025 and anticipates beginning generating revenue in Q1 of 2026.

### **Status of Permits/Other Required Approvals**

According to the Applicant, construction permits are required and anticipated to be secured by the end of June 2025. Additionally, the occupancy permit is already in place and appropriate for the activities related to the Project.

### **COMPETITIVE CRITERIA SCORE**

The Applicant received 155 Competitive Criteria points as follows:

1. **Environmental Benefits (100 of 100 points)**. The Application has a Project that produces an Alternative Source product, component, or system, and, therefore, 100 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 4.7%.<sup>4</sup> When compared to the statewide average annual unemployment rate of 5.3%, the Project location earned the Applicant zero points.
3. **Job Creation (40 of 75 points)**. The Applicant anticipates the Project will support a total of 64 production-related jobs at its Facility. CAEATFA estimates that approximately 7.25 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 40 points.
4. **California Headquarters (15 of 15 points)**. The Applicant maintains its corporate headquarters in San Jose, California, therefore, 15 points are 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 (0 of 75 points)**. The Project's industry is not in an Emerging Strategic Industry, as defined by CAEATFA, therefore, zero points are awarded.

## **PROJECT EVALUATION**

### **Project Benefits**

The Project received a Total Score of 3,825 points, which exceeds the required 1,000-point threshold, and a total Environmental Benefits Score of 2,953 points, which exceeds the 20-point threshold.

1. **Fiscal Benefits (742 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 \$1,101,178, resulting in a Fiscal Benefits score of 742.
2. **Environmental Benefits (2,953 points)**. The Project is anticipated to result in \$4,382,719 of total pollution benefits over the life of the Project, resulting in an Environmental Benefits Score of 2,953 points. These benefits derive from the

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<sup>4</sup> Unemployment rates are based on data available in October 2024.

capacity of solar PV modules to generate electricity from alternative sources, thereby reducing the need for traditionally generated electricity.

3. **Additional Benefits (130 points)**. Applicants may earn “Additional Benefit” points in the categories listed below. The Applicant received 130 Additional Benefit points.
- A. **Production Jobs (40 of 75 points)**. The Applicant anticipates the Project will support a total of 64 production-related jobs at its Facility. CAEATFA estimates that approximately 7.25 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 40 points.
  - B. **Construction Jobs (0 of 75 points)**. The Applicant anticipates the Project will support a total of four construction jobs at its Facility. CAEATFA estimates that approximately 0.45 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 Alameda County, which has an average annual unemployment rate of 4.7%. When compared to the statewide average annual unemployment rate of 5.3%, the Project location earned the Applicant zero points.
  - D. **Non-CA Environmental Benefits (40 of 40 points)**. The Applicant’s total value of out-of-state non-greenhouse gas emissions pollution benefits are valued at \$163,589.33 resulting in a Non-CA Environmental Benefits Score of 40 points for the Project.
  - E. **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 solar photovoltaic manufacturing.
  - F. **Benefits and Fringe Benefits (25 of 25 points)**. The Applicant states it provides medical, health, dental & vision, and paid leave to its employees, earning the Applicant 25 points.

**LEGAL STATUS QUESTIONNAIRE**

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

**CAEATFA FEES**

In accordance with STE Program regulations,<sup>5</sup> the Applicant has paid CAEATFA an Application Fee of \$8,915 and will pay CAEATFA an Administrative Fee of up to \$70,000 should the Applicant be approved for an award.

**RECOMMENDATION**

Staff recommends the approval of Resolution No. 25-SM005-01 for Tandem PV, Inc.'s purchase of qualifying tangible personal property in an amount not to exceed \$17,500,000 anticipated to result in an approximate STE value of \$1,484,000. 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.

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<sup>5</sup> California Code of Regulations Title 4, Division 13, Section 10036

**RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A  
REGULATORY AGREEMENT WITH TANDEM PV, INC.**

**June 17, 2025**

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the “Authority”) has received the Application of **Tandem PV, 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 \$17,500,000 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.9**  
**Resolution No. 25-SM005-01**

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