

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

*Request to Approve Project for SB 71 Sales and Use Tax Exclusion (STE)<sup>1</sup>*

**QUANTUM FUEL SYSTEMS TECHNOLOGIES WORLDWIDE, INC.  
Application No. 10-SM016**

**Wednesday, December 15, 2010**

Prepared By: *Cheryl Ide*

**SUMMARY**

**Applicant** – Quantum Fuel Systems Technologies Worldwide, Inc.

**Location** – Irvine, Orange County

**Industry** – Solar: Glass-Foil Laminate Photovoltaic (PV) Modules

**Project** – Establishment of a Solar PV Panel Module Manufacturing Facility

**Value of Qualified Property** – \$8,945,858

**Estimated Sales and Use Tax Exclusion Amount<sup>2</sup>** – \$814,073

**Estimated Net Benefits** – \$5,589,780

**Application Score** –

Fiscal Benefits Points:	7,242
<u>Environmental Benefits Points:</u>	<u>624</u>
<b>Net Benefits Score:</b>	<b>7,866</b>

<u>Additional Benefits Points:</u>	<u>53</u>
<b>Total Score:</b>	<b>7,919</b>

**Staff Recommendation** – Approval

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<sup>1</sup> All capitalized terms not defined in this document are defined in the Program's statute and emergency regulations.

<sup>2</sup> This amount is calculated based on the average statewide sales tax rate of 9.1%.

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**THE APPLICANT**

Quantum Fuel Systems Technologies Worldwide, Inc. (“Quantum” or “Applicant”) is a C-corporation, founded in 2000 and located in Irvine, California. Quantum and its affiliate, Asola Advanced and Automotive Solar Systems GmbH (“Asola”), currently design and manufacture high efficiency solar photovoltaic (PV) modules (i.e., solar panels) that generate 45 megawatts (MW) of peak power on an annual basis in Asola’s manufacturing facility based in Erfurt, Germany.

Quantum is a widely held corporation with no shareholders holding greater than 10% of outstanding sales.

The corporate officers of Quantum are:

Dale Rasmussen, Chair of Board  
Alan Niedzwiecki, President & CEO  
Brian Olson, CFO & Treasurer  
Dave Mazaika, COO  
Ken Lombardo, VP Legal, General Counsel &  
Corp. Secretary  
Brad Timon, Chief Accounting Officer &  
Controller

**THE PROJECT**

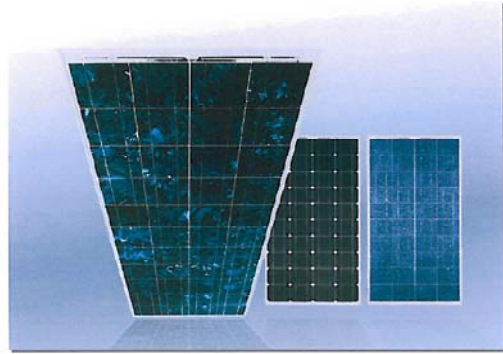
Quantum is currently in the process of establishing a solar PV module manufacturing operation in Irvine, California, which will be operational in the Spring/Summer 2011 with assistance from the California Energy Commission’s Clean Energy Business Financing Program (CEBFP) loan award of \$44.4 million. The equipment financed in part with the assistance of the CEBFP loan will allow Quantum to manufacture solar PV modules in California, including conventional flat solar panels and the curved automotive solar PV roof modules.

The Quantum solar modules will be glass-foil laminates with high efficiency solar cells with high output. The tempered low iron glass front offers high transparency. The light textured surface pattern of the glass provides diffusion, allowing slightly higher transmission values at acute angles of incidence. The frame is constructed of rigid, corrosion-resistant aluminum alloy. The PV cells are encapsulated with UV stable transparent ethylene vinyl acetate foil.

Quantum and its affiliate Asola currently design and manufacture high efficiency solar PV modules, at a 45 Megawatt (MW) factory based in Germany. Quantum and Asola have developed a detailed business plan to establish a similar 45 MW solar PV manufacturing operation similar to the German facility to be located in Quantum’s underutilized existing facility in Irvine, California.



**Automotive Solar Roof**



**Typical Quantum Solar Modules**

**ANTICIPATED COSTS OF QUALIFIED PROPERTY**

The anticipated Qualified Property purchases are listed below:

Solar Panel Assembly Line Equipment	\$ 1,583,150
Glass Washer	109,470
Stringer/Tabber Machine	2,896,382
Vacuum Laminators	1,960,530
Karma Solar Roof Panel Workstation	1,072,500
Solar Output Measurement	489,346
Packaging Equipment	30,000
EVA and Back Sheet Cutter	60,100
Repair Station Equipment	30,000
Storage Racks	146,460
Lift Trucks	75,000
Control Software	292,920
Office Furniture	125,000
Computer Hardware	75,000
<b>Total</b>	<b><u>\$ 8,945,858</u></b>

*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**

Quantum anticipates that it will take approximately six months from the date the company receives its final permits (December 2010) to install the production tools and expects installation will begin summer of 2011.

**PROJECT EVALUATION**

**NET BENEFITS**

The total cost of the Qualified Property purchases is anticipated at \$8,945,858 and the total net benefits are estimated at \$5,589,780 for the Project. The Project received a Total Score of 7,919 which exceeds the required 1,000 point threshold and a total Environmental Benefits Score of 624 which exceeds the 100 point threshold.

- A. **Fiscal Benefits (7,242 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 paid by the firm’s employees, firm taxes on profits, property taxes and other indirect fiscal benefits of the Applicant which amounts to \$5,895,571 resulting in a Fiscal Benefits Score of 7,242 points for the Project. Staff believes this fiscal benefit score is due to a high sales projection in comparison to capital input.
  
- B. **Environmental Benefits (624 points)**. CAEATFA staff estimated that the Project will result in an environmental benefits value of \$508,282 over the life of the Facility resulting in an Environmental Benefits Score of 624 points for the Project. These benefits derive from the capacity of solar PV modules to generate electricity from alternative sources, thereby reducing the need for traditionally generated electricity.
  
- C. **Additional Points (53 points)**. Applicants may earn up to 200 additional points for their final score. The Applicant submitted supplemental information and received 53 additional points.
  - 1. **Permanent Jobs (30 of 40 points)**. The Applicant’s Project will support a total of 86 jobs at the Facility. CAEATFA estimates that 10 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 30 points for the Project.
  
  - 2. **Construction Jobs (0 of 20 points)**. The Applicant’s Project will support a total of 8 construction jobs at the Facility. CAEATFA estimates that approximately 1 of these jobs will be attributable to a marginal increase in jobs created due to the approved STE. Zero points were awarded because the marginal increase in jobs created does not meet the required threshold.

3. **Non-CA Environmental Benefits (23 of 40 points)**. The Applicant's total out-of-state non-greenhouse gas pollution benefits are valued at \$37,310 resulting in a Non-CA Environmental Benefits Score of 23 points for the Project.

### **STATUS OF PERMITS/OTHER REQUIRED APPROVALS**

Quantum is working with the City of Irvine to obtain all required permits needed by December 2010. The Applicant does not anticipate any complications in obtaining these permits that will delay the planned start-up date.

### **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,<sup>3</sup> the Applicant has paid CAEATFA an Application Fee of \$4,473 and will pay CAEATFA an Administrative Fee of up to \$35,784.

### **RECOMMENDATION**

Staff recommends approval of Resolution No. 10-SM016 for Quantum Fuel System Technologies Worldwide, Inc.'s purchase of Qualified Property in an amount not to exceed \$8,945,858, anticipated to result in an approximate sales and use tax exclusion value of \$814,073.

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<sup>3</sup> California Code of Regulations Title 4, Section 10036

**RESOLUTION APPROVING AND AUTHORIZING EXECUTION OF A TITLE  
CONVEYANCE AGREEMENT WITH QUANTUM FUEL SYSTEMS TECHNOLOGIES  
WORLDWIDE, INC.**

WHEREAS, the California Alternative Energy and Advanced Transportation Financing Authority (the “Authority”) has received the Application of **Quantum Fuel Systems Technologies Worldwide, Inc.** (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 estimated cost not to exceed \$8,945,858 over 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 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(g)(2).

Section 2. The requested conveyance agreement constitutes “financial assistance” within the meaning of Public Resources Code Section 26003(e)(2).

Section 3. The Applicant is a “participating party” within the meaning of Public Resources Code Section 26003(f).

**Agenda Item – 4.B.1**  
**Resolution No. 10-SM016**  
**Application No. 10-SM016**

Section 4. The Executive Director is 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 Executive Director, Deputy Executive Director, or Chair of the Authority (the “Authorized Signatories”) is 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 officer 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, 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 will expire if 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.