

**CALIFORNIA ALTERNATIVE ENERGY AND  
ADVANCED TRANSPORTATION FINANCING AUTHORITY**  
**Meeting Date: August 21, 2012**

***Discussion of policy options for energy efficiency applications to the SB 71 Sales and Use Tax  
Exclusion Program***

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**Issue.** Senate Bill (SB) 71 (Padilla), signed into law on March 24, 2010, authorized the California Alternative Energy and Advanced Transportation Financing Authority (“Authority” or “CAEATFA”) to approve Projects<sup>1</sup> meeting certain criteria for sales and use tax exclusions. Specifically, according to the statute, “the conservation of energy” is defined as an “Alternative Source.” As a result, equipment used for the design, manufacture, production or assembly of energy efficiency products is potentially eligible for financial assistance under the SB 71 program.

Current CAEATFA regulations allow products that increase energy efficiency (i.e. reduce the use of energy) to qualify for the SB 71 Sales and Use Tax exclusion program. However, based on the experience of staff with previous energy efficiency applications and inquiries from potential applicants, CAEATFA staff believes that the policies for evaluating energy efficiency applications should be updated and refined.

This staff summary provides various approaches that CAEATFA could adopt in evaluating energy efficiency products, and requests Board direction on the further exploration and ultimate development of an approach.

**Background.** The current program regulations specify a procedure for evaluating energy efficiency applications based on the difference between the “baseline system consumption” of energy and the “improved system consumption” that results when the Applicant’s product is used instead of the “baseline” product. The terms “baseline system consumption” and “improved system consumption” are not defined in regulation or statute, leaving open to interpretation the specific types of products that are eligible as energy efficiency products, as well as the appropriate comparison product for purposes of measuring the reduction in energy consumption that will result from the use of the product. In addition, the very wide range of potential energy efficiency projects (from appliances to smart grid technology) increases the burden on CAEATFA staff to develop expertise in additional program areas.

This agenda item presents a series of potential policy options for evaluating energy efficiency applications. Staff request that the Board provide additional direction so that one or more of these policy options can be further developed, along with any necessary changes to the program regulations. .

**Potential Policy Options.** CAEATFA staff has developed a range of potential policy options for addressing the issue of energy efficiency applications. These options extend from indefinitely postponing the review and approval of energy efficiency applications to developing more precise definitions and procedures for evaluating the full range of energy efficiency applications.

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<sup>1</sup> All capitalized terms not defined here are defined in the Program’s statute and regulations.

**What should products be compared to? What types of Energy Efficiency Products Should the Program Assist?**

The primary difficulty associated with evaluating an energy efficiency application relates to estimating the amount of energy that would be saved by use of the product. This analysis requires that a determination be made as to what constitutes a “baseline” product for purposes of comparison as well as a determination of the difference in energy consumption between the baseline product and the Applicant’s product.

*At one end of the spectrum lie the types of products already covered by an existing state or federal standard or regulation (e.g. Energy Star or Title 24).* For such products, the most straightforward comparison for purposes of establishing the “Baseline System Consumption” is the classification of that product under existing California or federal energy efficiency regulations or standards. For example, if a manufacturer of dishwashers applied for the SB 71 program, the “baseline system consumption” could be set at a value equal to the minimum threshold required to receive Energy Star approval for a comparable dishwasher and the “improved system consumption” would be the amount of energy used by the applicant’s product. Because the Energy Star program has already tested and evaluated many types of products and, importantly, set a threshold for energy efficiency, it would be relatively straightforward for CAEATFA staff to evaluate the energy efficiency characteristics of products that have already received an Energy Star certification. The same would apply in cases in which the energy efficiency characteristics of products have previously been evaluated by other state or federal agencies. See Attachment A for a summary of major state and federal energy efficiency programs and standards that might be relevant.

*However, many product types (including components of Energy Star certified products) are not subject to or evaluated by any existing state or federal energy efficiency standards or programs.* If CAEATFA wishes to evaluate and potentially approve applications for products that do not fall under an existing state or federal energy efficiency program, regulation, or standard, a determination of the “Baseline System Consumption” would need to be made. This value could be based on the energy consumption of identical or substantially similar products (“Similar Products”), although a determination would need to be made during the course of the application review and approval process as to what constitutes a “Similar Product.” Because the energy consumption characteristics of these Similar Products would not necessarily be that of an energy efficient product, but rather that of a typical or average product in the category, the “Baseline System Consumption” used for purposes of calculating environmental benefits could be set at a value equal to the performance of the best Similar Products in terms of energy efficiency (e.g. equal to the top 10 or 20 percent of Similar Products). Analyzing the data required to make such determinations is feasible, but would potentially require the use of outside expertise to aid in the evaluation of applicant-provided data and information. This additional external analysis could extend the review and approval process and add costs to program administration.

Choosing to approve only applications for products that are subject to existing state or federal energy efficiency standards or regulations would increase the ease of program administration and provide clear guidance to potential applicants, but it would also mean that manufacturers of certain energy efficiency products would be rejected as ineligible. On the other hand, continuing to offer the program to a wide range of potential energy efficiency products and components would require external expertise, provide

less certainty for applicants, add administrative costs to the program, and extend the review and approval process.

The table below presents a matrix of possible policy options, including a brief explanation of the positive and negative attributes of each. These options span the range from the easiest to administer to the least likely to result in the rejection of a potentially worthy applicant.

Select Policy Options for Evaluating Energy Efficiency Products					
	1. No Additional Energy Efficiency Applications	2. Consider Final Products that Meet Existing Federal or State Standards Only	3. Components of Certified Products Automatically Qualify	4. Components of Certified Products Evaluated	5. Certified and other products and components allowed
<b>Description</b>	No additional energy efficiency applications would be accepted.	Applications would be accepted only from companies that make completed, final products that meet an existing state or federal energy efficiency program criterion (e.g. Energy Star certified dishwashers or laptops).	Applications would be accepted from companies that make certified energy efficient products as well as components of those products.  The extent of energy efficiency benefits from components would not be evaluated; instead all finished products or components would be eligible.	Applications would be accepted from companies that make products or components of products that meet or exceed existing state or federal energy efficiency standards; extent of contribution to energy efficiency would be evaluated for components.	In addition to products eligible for Energy Star or similar certification, applications would be accepted from manufacturers of other types of products that provide energy efficiency benefits.
<b>Pros</b>	Very easy to administer.	Very easy to administer.	Easy to administer.	Provides a more accurate and complete measure of environmental benefits.  Products that do not produce environmental benefits would not be eligible.	Includes the widest range of potential energy efficiency applications.  Products that do not produce environmental benefits would not be eligible.  Few worthy applications would be ineligible.
<b>Cons</b>	Statute specifically provides that energy efficiency projects are eligible for financial assistance.  Some worthy applications will be deemed ineligible.	Some worthy applications would be rejected (e.g. producers of components of Energy Star certified products or products not eligible for Energy Star certification such as industrial equipment).	Some worthy applications would be rejected (e.g. products that are not eligible for Energy Star).  Some applications for products that do not produce energy efficiency benefits would qualify (e.g. keyboard for Energy Star laptop or casters for Energy Star refrigerator).	Difficult to administer. Requires 3 <sup>rd</sup> party review and evaluation/verification. Extends time to review, analyze and approve applications. Some worthy applications would be rejected (e.g. from companies that make non-consumer products that are not eligible for Energy Star).	Difficult to administer.  Same as 4

**Board Direction and Next Steps**

CAEATFA staff requests that the Board review the issue of evaluating energy efficiency applications for the SB 71 program, and provide direction to staff such that a policy or policies can be further developed and regulation changes drafted as needed.

After the Board provides direction, staff will develop a timeline and plan for appropriate next steps including development of proposed regulations for consideration and discussion at a public workshop with interested stakeholders. Staff anticipates holding the workshop in September/October, and bringing proposed regulations to the Board to consider in October/November for incorporation into the regular rulemaking process of the SB 71 Program (See Agenda Item 4.A)

**Recommendation.** Staff has identified five scenarios in which CAEATFA could proceed and is seeking direction from the Board on which course of action to take at this time. The five scenarios are outlined below.

1. Not Consider Energy Efficiency Products/Components Under the Program.
2. Consider Application for Energy Efficiency Products that are identified in Existing State or Federal Energy Efficiency Standard (Final Products Only).
3. Scenario #2 and Components of Certified Final Products Automatically Qualify.
4. Scenario #2 and Components of Certified Final Products are Evaluated and Eligible if they are more energy efficient than an Applicant Identified “Baseline Comparison.”
5. Scenario #2, #4, and Any Other Energy Efficient Products or Components are Evaluated and Eligible if they are more Energy Efficient than an Applicant-Identified “Baseline Comparison.”

## **Attachment A**

### Overview of Selected Energy Efficiency Programs and Standards

#### 1. Energy Star

Energy Star is a voluntary labeling program designed to inform consumers and businesses about the energy consumption of a wide range of consumer products including major appliances, office equipment, lighting, and home electronics, some 60 categories in all. Energy Star products generally use about 20% less energy than comparable products without the Energy Star designation. Energy consumption of Energy Star products is measured and verified by the program. In order to qualify, Energy Star products must achieve energy efficiency gains through “broadly available, non-proprietary technologies.”

The labeling program has also been extended to cover new homes and commercial and industrial buildings. Generally, commercial buildings must be more efficient than 75% of similar buildings in terms of energy use in order to qualify; new homes that receive the Energy Star certification are generally 30% more efficient than typical new homes.

Energy star products include clothes washers, dishwashers, freezers, refrigerators, air conditioners, computers, cordless phones, televisions, battery operated power tools, fans, furnaces, lighting, and water heaters, among others.

#### 2. Title 24

Title 24 of the California Code of Regulations covers building energy standards. Newly constructed and altered (remodeled) buildings must meet the energy efficiency requirements of Title 24. The regulations cover the structural, electrical, mechanical, and plumbing systems of buildings in California. The regulations cover windows, insulation, lighting, and ventilation systems among other building features. For nonresidential buildings, the regulations cover things such as energy use in supermarkets, computer data centers, commercial kitchens, laboratories, and parking garages, among others.

#### 3. FEMP

The Federal Energy Management Program (FEMP) is a federal program designed to help the federal government use less energy. The program provides services and tools to federal agencies to help them achieve required energy efficiency goals. In addition to energy audits and other services, FEMP also designates certain products as energy efficient. FEMP designated product categories span a broad range, including boilers, chillers, water heaters, lighting, and commercial ice machines, among others.

#### 4. CAFE

The Corporate Average Fuel Economy (CAFE) regulations govern the fuel economy of characteristics of passenger cars and light trucks nationally.

## Procuring Energy-Efficient Products

Federal mandates require that Federal agencies purchase energy-efficient products. To help agency buyers meet these requirements, the Federal Energy Management Program (FEMP) maintains a list of FEMP-designated and ENERGY STAR®-qualified product categories found frequently in Federal facilities. Refer to the legend to see which program covers each product category. For more information on these products and requirements, visit [www.femp.energy.gov/coveredproducts](http://www.femp.energy.gov/coveredproducts).

### Legend of Energy-Efficient Product Programs

- ENERGY STAR
- ▲ FEMP-Designated
- ◆ Low Standby Power
- Electronic Product Environmental Assessment Tool (EPEAT)



## Heating & Cooling (Space & Water)

### Commercial Space Heating and Cooling

- Boilers ▲
- Central Air Conditioners ■
- Chillers
  - Air-Cooled Electric ▲
  - Water-Cooled Electric ▲
- Heat Pumps
  - Air-Source ■
  - Ground-Source ■

### Commercial Water Heating

- Gas Water Heaters ▲

### Residential Space Heating and Cooling

- Room Air Conditioners ■
- Central Air Conditioners ■
- Boilers ■
- Fans
  - Ceiling ■
  - Ventilation ■
- Gas Furnaces ■
- Air-Source Heat Pumps ■

### Residential Water Heating

- Electric Resistance Storage ▲
- Heat Pump ■
- Gas Condensing ■
- Storage ■
- Whole-Home Tankless (Instantaneous) ■
- Solar ■



## IT & Electronics

### Information Technology

- Computers
  - Desktops, Workstations, and Docking Stations ■◆●
  - Laptops and Integrated Computers ■●
- Displays and Monitors ■●
- Enterprise Servers ■
- Docking Stations ◆
- Imaging Equipment
  - Copiers ■
  - Digital Duplicators ■

- Fax/Printer Machines ■◆
- Mailing Machines ■
- Multifunction Devices ■
- Printers ■
- Scanners ■

### Electronics

- Audio/Video ■
- Televisions (TVs) ■
- Battery Chargers ■
- Cordless Phones ■◆
- Set-Top and Cable Boxes ■



## Lighting

- Fluorescent Ballasts ▲
- Fluorescent Tube Lamps ▲
- LED Lighting (Commercial) ■
- Light Bulbs
  - Compact Fluorescent (CFL) ■
  - Light Emitting Diodes (LED) ■
- Luminaires
  - Fluorescent ▲
  - Downlight (Commercial) ▲
  - Industrial (High-Bay) ▲
- Light Fixtures (Residential) ■
- Decorative Light Strings ■



## Commercial Food Service Equipment

- Dishwashers (Commercial) ■
- Fryers ■
- Griddles ■
- Hot Food Holding Cabinets ■
- Ice Machines
  - Air-Cooled ■
  - Water Cooled ▲
- Ovens (Commercial) ■
- Refrigerators and Freezers (Commercial) ■
- Steam Cookers ■
- Pre-Rinse Spray Valves ▲
- Beverage Vending Machines ■



## Appliances

- Clothes Washers (Commercial) ■
- Clothes Washers (Residential) ■
- Room Dehumidifiers ■
- Dishwashers (Residential) ■
- Refrigerators (Residential) ■
- Freezers (Residential) ■
- Room Air Cleaners and Purifiers ■



## Other

### Building Envelope

- Cool Roofing Products ■
- Windows, Doors, and Skylights ■

### WaterSense Plumbing

- Faucets, Showerheads, Toilets, and Urinals

### Miscellaneous

- Water Coolers ■

### Additional Guidance

- Centrifugal Pumping Systems
- Lighting Controls

### Suspended Categories

- Electric Motors
- Distribution Transformers
- Fluorescent Tube Lamps ▲

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