PROPOSITION 39: CALIFORNIA CLEAN ENERGY JOBS ACT -2013 PROGRAM IMPLEMENTATION DRAFT GUIDELINES

CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

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ABSTRACT

The California Energy Commission has developed these DRAFT *Guidelines* in accordance with Proposition 39 (2012) and Senate Bill 73 (, Chapter 29, Statutes of 2013) adopted by the Legislature and signed into law by Governor Edmund G. Brown on June 27, 2013. Section 26235 (a) of the Public Resources Code requires the California Energy Commission to establish *Guidelines*, in consultation with the State Superintendent of Public Instruction, the Chancellor of the California Community Colleges, and the California Public Utilities Commission.

Keywords: Proposition 39, California Clean Energy Jobs Act, Job Creation Fund, Senate Bill 73, energy efficiency, clean energy, conservation, conservation corps, school, community college districts, workforce training, education, local educational agency

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TABLE OF CONTENTS

ABSTRACT ..... **i**

TABLE OF CONTENTS ..... **ii**

CHAPTER 1: Background **1**

DRAFT GUIDELINE OVERVIEW 2

FUNDING DISTRIBUTION 2

GUIDELINE AUTHORITY 3

CONFIDENTIALITY 4

EFFECTIVE DATE OF GUIDELINES 4

NONSUBSTANTIVE CHANGES IN GUIDELINES 4

CHAPTER 2: Local Educational Agency Proposition 39 Award Program **4**

ELIGIBILITY 5

SCHEDULE 6

AWARD ALLOCATIONS 7

PROCESS TO RECEIVE K-12 ENERGY PROJECT AWARD FUNDING 12

Step 1: Electric and Gas Usage/Billing Data 12

Step 2: Benchmarking or Energy Rating System 13

Step 3: Energy Project Prioritization Considerations 14

Step 4: Sequencing of Facility Improvements 15

Step 5: Energy Project Identification 17

Step 6: Cost-Effectiveness Determination 18

Step 7: Complete and Submit an Energy Expenditure Plan 19

Audit 26

ENERGY EXPENDITURE PLAN IMPLEMENTATION CHANGES 26

ENERGY PROJECT CONSTRUCTION COMPLIANCE REQUIREMENTS 27

CONTRACTS 28

NO RETROACTIVE FUNDING OF PROJECTS 28

CHAPTER 3: Additional Proposition 39 State Resources **29**

1) Energy Conservation Assistance Act - Education Subaccount: Loan and Technical Assistance Program 29

PROGRAM SUMMARY 29
2) California Workforce Investment Board Grant Program 31
3) California Conservation Corps 31

APPENDIX 33

Exhibit A: Proposition 39 Implementation Program 2013-14 Funding Allocation for Energy Projects 34
Exhibit B: Typically Cost-effective K–12 School Energy Projects 35
Exhibit C: Proposition 39 Funding Pathway Example 42
Exhibit D: Benchmarking Process 44
Exhibit E: Savings to Investment (SIR) Calculation 46
Exhibit F: Effective Useful Life for Measures in Years 48
Exhibit G: Job Creation Benefits Calculation 50
Exhibit H: Definitions 53
Exhibit I: List of Acronyms 55

CHAPTER 1: Background

The **California Clean Energy Jobs Act** was created with the approval of Proposition 39 in the November 6, 2012, statewide general election. Proposition 39 added Division 16.3 (commencing with Section 26200) to the Public Resources Code, added Sections 25136, 25136.1 and 25128.7 to the Revenue and Taxation Code, and amended Sections 23101, 25128, 25128.5 and 25136 of the Revenue and Taxation Code. The statute made changes to the corporate income tax code and allocates projected revenue to the General Fund and the Clean Energy Job Creation Fund (Job Creation Fund) for five fiscal years, beginning with fiscal year 2013-14. Under the initiative, approximately $550 million annually is available to be appropriated by the Legislature for eligible projects to improve energy efficiency and expand clean energy generation.

For fiscal year 2013-14, the California's Legislature, through Senate Bill 73 (Chapter 29, Statutes of 2013) appropriated Proposition 39 revenue as follows:[1]

- $381 million in awards to local educational agencies, which include: county offices of education, school districts, charter schools, and state special schools that serve students in kindergarten and grades 1 through 12 for energy efficiency and clean energy projects.
- $47 million in awards to California community college districts for energy efficiency and clean energy projects.
- $28 million for low-interest and no-interest revolving loans and technical assistance to the California Energy Commission.
- $3 million to the California Workforce Investment Board (CWIB) to develop and implement a competitive grant program for eligible workforce training organizations to prepare disadvantaged youth, veterans, and others for employment in clean energy fields.
- $5 million to the California Conservation Corps to perform energy surveys and other energy conservation-related activities.

In the subsequent four fiscal years, 2014-15 through 2017-18, LEAs and community colleges will receive allocations from the Job Creation Fund, when funds are appropriated by the Legislature, for eligible energy efficiency upgrades and clean energy installations that create jobs in California.

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1 Exhibit A in the Appendix provides a representation of fiscal year 2013-14 Proposition 39 implementation funding allocation.

DRAFT GUIDELINE OVERVIEW

The California Energy Commission has developed these *Proposition 39: California Clean Energy Jobs Act – 2013 Program Implementation DRAFT Guidelines (DRAFT Guidelines*) in accordance with Proposition 39 (2012) and Senate Bill 73 (Chapter 29, Statutes of 2013). Public Resources Code Section 26235(a) requires the Energy Commission to establish *Guidelines*, in consultation with the State Superintendent of Public Instruction, the Chancellor of the California Community Colleges, and the California Public Utilities Commission. To navigate the legal requirements of Proposition 39, the statute or law pertaining to a section of the *DRAFT Guidelines* is captured in a box at the beginning of the section.

These *DRAFT Guidelines* define how the State of California intends to implement the California Clean Energy Jobs Act (Proposition 39) Program. The *DRAFT Guidelines* provide direction to potential applicants on the types of awards and required proposals or plans, explain screening and evaluation criteria, describe the standards to be used to evaluate project proposals, and outline the award process. The Energy Commission has developed these *DRAFT Guidelines* in accordance with Proposition 39 and Senate Bill 73.

In addition to the requirements identified in the *DRAFT* Guidelines, projects may also be subject to environment requirements, local permits or construction rules. These other requirements are not addressed in these *DRAFT Guidelines.*

The DRAFT Guidelines consists of three chapters:

Chapter 1: Background and General Information

Chapter 2: Local Educational Agency Proposition 39 Award Program

Chapter 3: Additional Proposition 39 State Resources

FUNDING DISTRIBUTION

Sections 26227-26233 of the Public Resources Code (added by SB 73) direct the specific allocation of Proposition 39 funding, in addition to specific 2013-14 fiscal year funding amounts for each Program element. For the 2014-15 through 2017-18 fiscal years, inclusive, the amount of funding available from the California Clean Energy Jobs Act to all Program elements shall be determined in the annual California Budget. The five Program elements are listed below with the corresponding funding allocation.

Local Educational Agency Proposition 39 Award Program

SB 73 establishes that 89 percent of the funds deposited annually into the California Clean Energy Jobs Act Fund be allocated to the State Superintendent of Public Instruction (SSPI) for awards and made available to LEAs for energy efficiency upgrades and clean energy installations. For fiscal year 2013-14, the allocation is $381 million.

California Community College Chancellor's Office

SB 73 establishes that 11 percent of the funds deposited annually into the Clean Energy Job Creation Fund be allocated to the California Community College Chancellor's Office (CCCCO) to be made available to community college districts for energy efficiency upgrades and clean energy installations. For fiscal year 2013-14 the allocation is $47 million.

The CCCCO is exempt from following these *DRAFT Guidelines* for fiscal year 2013-2014, but may be required to follow the final *Guidelines* (or future amended *Guidelines*) for fiscal years 2014-2015 through 2017-2018.

California Energy Commission Energy Conservation Assistance Act − Education Subaccount: Loan and Technical Assistance Grant Program

SB 73 allocated $28 million in fiscal year 2013-14 to the California Energy Commission (Energy Commission) for the Energy Conservation Assistance Act − Education Subaccount (ECAA-Ed). Of this amount, approximately 90 percent will be available for low-interest or no-interest loans. The remaining 10 percent will be transferred to the Bright Schools Program to provide technical assistance grants to public K-12 schools (housed in public buildings), county offices of education, and community colleges needing support with energy efficiency project identification and planning.

California Workforce Investment Board

SB 73 allocated $3 million for fiscal year 2013-14 to the California Workforce Investment Board (CWIB) to develop and implement a competitive grant program for eligible workforce training organizations which prepares disadvantaged youth, veterans or others for employment.

California Conservation Corps

The 2013-14 California Budget Act allocated $5 million in fiscal year 2013-14 to the California Conservation Corps (CCC) for energy surveys and other energy conservation-related activities for public schools.

GUIDELINE AUTHORITY

These *DRAFT Guidelines* are adopted pursuant to Public Resources Code Sections 25218(e) and 26235, which authorize the Energy Commission to adopt *Guidelines* governing the award, eligibility, and administration of funding for the Proposition 39 program. The *Guidelines* are exempt from the procedural requirements of the Administrative Procedure Act, as specified in Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. The final *Guidelines* may be revised pursuant to Public Resources Code Section 26235, subdivision (d)(1).

CONFIDENTIALITY

Persons or entities seeking a confidential designation for data shall follow the process identified in California Code of Regulations, Title 20, Section 2505.

EFFECTIVE DATE OF GUIDELINES

These *DRAFT Guidelines* shall not be effective as final *Guidelines* until adopted by the Energy Commission at a publicly noticed business meeting. The Energy Commission will post the adopted *Guidelines* on its website: www.energy.ca.gov/efficiency/proposition39/index.html or a copy may be obtained by contacting:

California Energy Commission
Efficiency Division
Local Assistance and Financing Office, MS-23
1516 Ninth Street,
Sacramento, CA 95814
E-mail: _____

SUBSTANTIVE CHANGES IN GUIDELINES

Substantive changes to the final *Guidelines* may be made with the approval of the Energy Commission at a publicly noticed meeting with no fewer than 15-days public notice. Unless stated otherwise in the resolution approving substantive changes, such changes shall take effect upon adoption by the Energy Commission. Substantive changes for the Proposition 39 program, policy or design include but are not limited to:

- Changes in screening for eligibility.
- Changes in evaluation criteria.
- Changes in funding criteria for determining award amount.

NONSUBSTANTIVE CHANGES IN GUIDELINES

If the final *Guidelines* require nonsubstantive changes the Energy Commission will provide a notice of the changes to the Proposition 39 program list serve and post the amended *Guidelines* on the Proposition 39 program webpage.

CHAPTER 2:
Local Educational Agency Proposition 39 Award Program

The SSPI is responsible for the administration of awards to LEAs that serve grades K–12 students. These funds may be used by LEAs for energy efficiency and clean energy installations, as well as related energy planning, energy training and energy management activities. LEAs are required to submit an expenditure plan to the Energy Commission for consideration. Funds are released to the LEA only after the Energy Commission approves an energy expenditure plan.

ELIGIBILITY

Eligible Applicants

LEAs, which include county offices of education, school districts, charter schools, and state special schools are eligible for Program funding. Generally, LEAs are located in publicly-owned buildings and pay utility bills based on meters at their facilities.

Other LEAs utilize leased facilities with varied utility payment agreements. Eligibility for these LEAs is as follows:

Eligibility of LEAs in Leased Facilities

LEAs Located in Privately-owned Leased Facilities: If an LEA's facility or building where the Proposition 39 program work will be applied or installed is owned by a private entity and there is a lease agreement between the LEA and the building owner:

- The LEA is eligible if all of the following requirements are met:
  1. The LEA pays the utility bills; and
  2. A separate meter exists for the facility or building where the planning work will be applied or energy project(s) installed; and
  3. The LEA certifies it has received written approval from the building owner to conduct planning work or install energy project(s).

- The LEA is <u>not</u> eligible if the building owner pays the utility bills.

Publicly-Owned Leased Facilities with Separate Meter: If an LEA's facility or building where the planning work will be applied or energy project(s) installed has a separate meter and is owned by another LEA and there is a lease agreement between the two LEAs:

- Both LEAs are eligible for an award if there is a separate meter for the facility or building where the planning work will be applied or energy project(s) installed.

Publicly-Owned Leased Facilities without Separate Meter: If an LEA's facility or building where the planning work will be applied or energy project(s) installed does not have a separate meter and is owned by a second LEA and there is a lease agreement between the two LEAs:

- The two LEAs must coordinate to submit a combined request for a planning project or energy expenditure award.

NOTE: This section, ***Eligibility of LEAs in Leased Facilities,*** has been difficult to describe in these *DRAFT Guidelines*. The Energy Commission recognizes some LEAs are located in various types of leased facilities. The statute requires LEAs to report 12-months of historical utility data as well as utility data into the future. In order to achieve energy savings, and therefore financial savings, LEAs need to pay for their utilities. We welcome your thoughts and input in this section.

Eligible Project Examples

According to Proposition 39, funding shall be made available for projects that create jobs in California, improve energy efficiency, and expand clean energy generation. A list of eligible project examples is found in the Appendix in Exhibit B: Typical Cost-effective K-12 School Energy Projects.

SCHEDULE

The anticipated Proposition 39 Program implementation schedule is:

SSPI to begin releasing energy audit and planning funds	~~November 2013~~ November 2013, February 2014 and one additional request opportunity if needed in spring 2014
Energy Commission to begin accepting energy expenditure plans proposals	December 2013
SSPI to begin allocating awards	May 2014
Two fiscal year combined funding award requests	September 1, 2014 (*annually*)
Award calculation completed by CDE	November 30 (*annually*)
LEAs project completion reporting	Ongoing
LEAs expenditure reports to Citizen's Oversight Board (COB) and Energy Commission	October 1 (*annually beginning 2015*)
Energy Commission report to COB	January 1 (*annually beginning 2016)*
LEAs final encumbrance date	June 30, 2018
LEAs final project completion date	June 30, 2020
LEAs final project reporting date	June 30, 2021

AWARD ALLOCATIONS

The SSPI will allocate funding awards on a formula-based methodology: 85 percent based on average daily attendance (ADA) reported as of the second principal apportionment for the prior fiscal year (P-2) and 15 percent based on the number of students eligible for free and reduced-priced meals (FRPM) in the prior year. This allocation formula includes minimum-funding award levels in a four-tiered system, as illustrated in Table 2.

Table 2: Minimum Funding Award Levels

Tier Levels	Average Daily Attendance Prior Year	Minimum Funding Awards
Tier 1	100 or less	$15,000 plus FRPM
Tier 2	101-1,000	Based on prior year ADA or $50,000 (whichever amount is larger) plus FRPM
Tier 3	1,001 to 1,999	Based on prior year ADA or $100,000 (whichever amount is larger) plus FRPM
Tier 4	2,000 or more	Based on prior year ADA Plus FRPM

Source: California Energy Commission

Annual Award Calculation

The CDE will calculate the LEA funding awards each fiscal year. Once the CDE compiles prior year ADA and FRPM information, the CDE will calculate total awards for all LEAs based on the amount appropriated for Proposition 39 during the annual budget process and the number of LEAs requesting two years of funding in the current year (and taking into account the minimum award requirements).

LEAs are cautioned not to rely on calculations or estimates by entities other than the CDE. To see the final CDE 2013-14 fiscal year awards, please go to __(website)_____.

Two-Year Combined Award Option (Tier 1 and Tier 2):

LEAs with 1,000 or fewer prior year ADA are eligible to receive both the current year and the following year funding in the current year. To request the two-year combined funding, apply online through the CDE at: _____(website)_____.

- by September 1, 2014, for (2014-2015 and 2015-2016 award),
- by September 1, 2015, for (2015-2016 and 2016-2017 award).
- by September 1, 2016, for (2016-2017 and 2017-2018 award).

LEAs selecting this option shall not receive a funding allocation in the year following the request.

Energy Planning Reservation Option

Eligible LEAs have the option of requesting a portion of their fiscal year 2013-2014 award for energy planning now, without submitting an expenditure plan to the Energy Commission. This option is only available for the fiscal year 2013-2014 award of the Proposition 39 program and is intended to provide funds for planning activities through fiscal years 2013-2014 through 2017-18.

Allowed Planning Activities

The energy planning reservation can only be spent on these two activities:

- Screening and energy audits.
- Proposition 39 program assistance.

Table 3 below provides a detailed description of each activity. In addition, the table illustrates best practices cost guidance for screening and energy audits.

Table 3: Energy Planning Activities

Pre-Expenditure Plan Approved Activities	Description of Activity	Best Practices Cost Guidelines
American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level 2 Energy Audit plus SIR as defined by the *DRAFT Guidelines*.	An ASHRAE Level 2 audit shall provide a review of the past 12 months of utility billing data and calculations of energy use intensity (EUI) and a walk-through of the facility. The audits shall also provide a list of all energy efficiency projects recommended for implementation and shall include detailed project cost, energy savings calculations and financial analysis of proposed energy efficiency measures. The financial analysis shall provide a comprehensive understanding of the financial benefits of implementing the specific energy efficiency project recommendations and include a Savings to Investment Ratio (SIR) according to the *DRAFT Guidelines*.	No more than $0.15 - $0.20 per gross square foot[2]
Energy Surveys Data Analytics	Energy Surveys and Data Analytics may be used as tools to identify opportunities for energy efficiency projects at LEA facilities, such as those projects listed in Exhibit B in the DRAFT Guidelines, for which an Energy Commission calculator may be used to determine energy savings.	No more than $0.02 - $0.05 per gross square footage. ~~No more than $0.2 - $0.5 per gross square foot~~
Proposition 39 program assistance	If an LEA needs assistance completing the Proposition 39 program requirements, it may use part of the award for Proposition 39 program assistance activities. For example, LEAs are required to provide electric and gas usage/billing data, complete benchmarking, and submit expenditure plans to receive energy efficiency funding under this program. Energy planning funds requested for Proposition 39 program assistance activities can be used to complete any of the required Proposition 39 program steps.	

Source: California Energy Commission

Funding Limits

Each of the two approved categories for energy planning activities have funding limits as follows:

Energy Planning Activities	**Funding Limits**
Screening and Energy Audits	85%

2 "gross" means all the square footage inside the perimeter of exterior walls (less courtyards).

Proposition 39 Program Assistance	15%

Maximum Energy Planning Award Funding Request

~~LEAs in Tier 1-3 may request up to 100% of their first year award for planning activities. LEAs in Tier 4 may request 30% of their first year award for planning activities or up to $1,000,000 whichever is less.~~

1) LEAs with first year awards of $433,000 or less, may request up to $130,000 of their first year award for planning activities.
2) LEAs with first year award of $433,001 or more, may request 30% of their first year award (up to $1,000,000) for planning activities.

Example #1: For an LEA in Tier 1 receiving an award of $15,000, the funding caps are applied as follows:

Energy Planning Activities	Funding Limits	Funding Cap
Screening and Energy Audits	85%	$12,750
Proposition 39 Program Assistance	15%	$ 2,250
TOTAL	100%	$15,000

Example #2: An LEA in Tier 4 receiving an award of $5,000,000 will be limited to 30% or up to $1,000,000 for energy planning activities whichever is smaller:

Energy Planning Activities	Funding Limits	Funding Cap
Screening and Energy Audits	85%	$850,000
Proposition 39 Program Assistance	15%	$ 150,000
TOTAL	100%	$1,000,000

For LEAs that elected to receive two years of award funding in fiscal year 2013-2014, the "first year" funding is one-half of the combined award.

Unused Energy Planning Awards

Any unused energy planning funds may be applied toward energy project implementation approved as part of an expenditure plan.

If an LEA decides to request only a portion of its first year award for energy planning, the planning funding requested will be subtracted from the total award and the remaining funding will be available for energy project implementation through the expenditure plan process.

Retroactive Planning Projects

Proposition 39 funding may be used only to pay for energy planning activities occurring on or after July 1, 2013. If energy planning activities took place before July 1, 2013, those energy planning activities are not eligible for retroactive Proposition 39 funding.

Reporting Planning Activities and Expenditures

All LEAs shall report their planning activities and related expenditures as part of their first energy expenditure plan following planning work.

New Charter School Commencing Instruction in 2013-2014 or After

For new charter schools that commence instruction in fiscal year 2013-14 or after, energy planning funding for those new schools will be available in the first fiscal year of Proposition 39 funding eligibility (for example, a charter school that begins instruction in fiscal year 2013-14 can use fiscal year 2014-15 award funds for planning activities).

Large Expenditure Plan Award Requirements (Tier 4):

Public Resources Code section 26233(b)(3) states "For every LEA that receives over one million dollars ($1,000,000) pursuant to this subdivision, not less than 50 percent of the funds shall be used for projects larger than two hundred fifty thousand dollars ($250,000) that achieve substantial energy efficiency, clean energy, and jobs benefits."

LEAs that receive over one million dollars in any one fiscal year grant award are required to submit an energy expenditure plan that meets the large expenditure plan award requirement highlighted above. A large expenditure plan project is defined as a project at a school site whose project costs total more than $250,000.

Leveraging Award Funding

Public Resources Code section 26235(g) states "This section shall not affect the eligibility of any eligible entity awarded a grant pursuant to this section to receive other incentives available from federal, state, and local governments or from public utilities or other sources or to leverage the grant from this section with any other incentive."

LEAs may pursue other programs and incentives to leverage the Proposition 39 awards, such as, but not limited to:

- The Energy Commission's Bright Schools Program "no-cost" energy efficiency audits.
- California Conservation Corps "no-cost" and "low-cost" energy efficiency data collection and energy efficiency surveys.
- Local programs
- Utility rebates
- The Energy Commission's ECAA Loan Program

Award Funding for Training

Public Resources Code section 26235(a)(6) states that "Where applicable, ensuring LEAs assist classified school employees with training and information to better understand how they can support and maximize the achievement of energy savings envisioned by the funded project."

Training costs may be submitted as part of an energy expenditure plan. Each fiscal year, an LEA will have the option of requesting up to 2 percent of its award or $1,000, whichever is greater, for energy efficiency training of classified school employees.

Award Funding for Energy Manager

Many LEAs do not have the staff, knowledge, or time to effectively control and manage energy costs. Therefore, LEAs may consider hiring an energy manager. An energy manager can actively work to reduce a school's energy operational costs and provide more control over energy costs.

LEAs too small to justify hiring their own energy managers may consider pooling their energy manager funding within a county and share the services of an energy manager.

Each fiscal year, an LEA will have the option of requesting up to 10% of its award or $100,000, which ever is greater to hire or retain an energy manager.

PROCESS TO RECEIVE K-12 ENERGY PROJECT AWARD FUNDING

LEAs need to follow the eight step process described in this section to participate in the Proposition 39 program.[3]

Step 1: Electric and Gas Usage/Billing Data

Public Resources Code section 26240(a) states "In order to later quantify the costs and benefits of funded projects an entity that receives funds from the Job Creation Fund shall authorize its local electric and gas utilities to provide 12 months of past and ongoing usage and billing records at the school facility site level to the Energy Commission."

The first step to receive program award funds for energy project implementation is to provide the Energy Commission access to utility data at the school facility site level. Each LEA must identify all electric, natural gas, propane, or fuel oil accounts for all its schools and facilities, and provide a utility data release form allowing the Energy Commission to access both historical (the past 12 months) and future utility billing data and time-of-use interval data. Access to utility data will include all schools and facilities within an LEA that is receiving funding, not just schools and facilities with planned or active projects. An LEA must sign a release to provide

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3 Appendix Exhibit C: Proposition 39 Funding Pathway Example provides a visual overview of this process.

utility data to the Energy Commission. Each utility provider has a specific release form; therefore, LEAs must request the release forms directly from their utility providers. The Energy Commission's Proposition 39 website has direct links to utility and energy supplier release forms: _____(webpage)_____

The Energy Commission must receive the prior 12 months of utility usage data from the local electric and gas utility provider(s) as part of an LEA's submission of its first energy expenditure plan. Authorization for the Energy Commission to receive utility data must continue through the life of the Program and as requested by the Energy Commission thereafter.

Step 2: Benchmarking or Energy Rating System

Public Resources Code section 26235(a)(3)(A) states the Energy Commission shall establish guidelines for "benchmarks or energy rating systems to select best candidate facilities."

As part of the project evaluation an LEA must "benchmark" to determine the energy use intensity (EUI) of any school or site that receives Proposition 39 program funding. Benchmarks provide important information about a building's energy usage. This information is similar to the miles-per-gallon metric for vehicle fuel economy; EUI reflects the rate of energy use of a building. For fiscal year 2013-14, LEAs may choose any benchmarking method to meet this requirement. LEAs can easily conduct their own benchmarking process. Complete, detailed benchmarking instructions are found in the Appendix in Exhibit D. Only the school sites applying for Proposition 39 funding need to be benchmarked. LEAs can choose to benchmark more schools if that is beneficial to their energy planning and school site section process.

Benchmarking results must include total energy cost/square footage/year and annual total Kbtus[4]/square footage/year. LEAs will report this information as part of the energy expenditure plan.

Benchmarking helps determine how well individual schools are performing in terms of energy efficiency. Benchmarks can quickly identify schools that are the lowest and highest energy users, revealing which facilities have the greatest potential for energy savings.

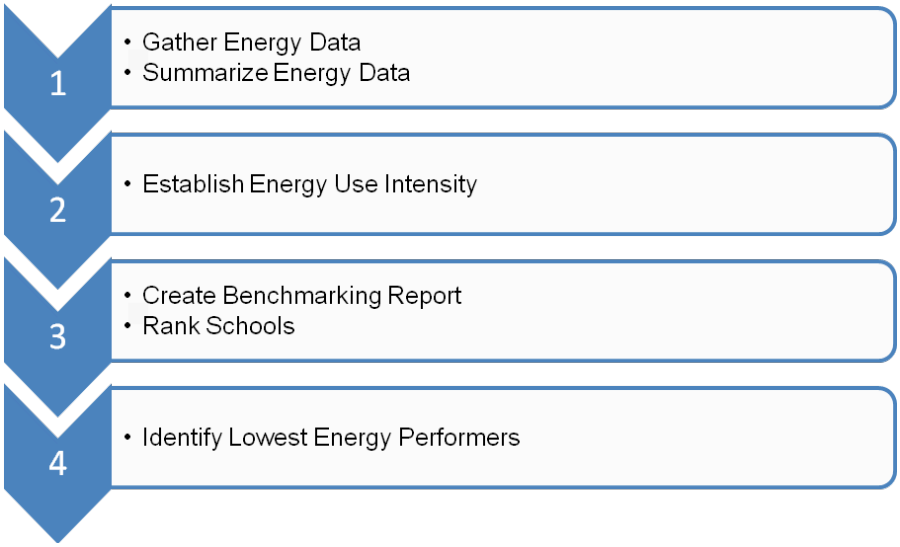
Once these EUI calculations are completed, each LEA can compare the EUI score of one school to another to identify schools with the highest energy use. The best candidates for further energy efficiency evaluation are schools with the highest energy use. As a general rule, when the calculated energy cost intensity is high, there are more energy-saving opportunities.

The Benchmarking Process

The benchmarking process begins with data-gathering and concludes with a prioritized plan for implementing energy efficiency measures.

Figure 1: Benchmarking Process

4 One thousand British thermal units.



Source: California Energy Commission

Energy Benchmarking Resources and Tools

In addition to the method presented in the Appendix, some benchmarking tools such as the U.S. Environmental Protection Agency's ENERGY STAR® "Portfolio Manager" and Lawrence Berkeley National Laboratory's "Energy IQ" are available for free. Other acceptable benchmarking systems may be available from your local utilities, ASHRAE, or private building simulation vendors. Any of these benchmarking models can be used to determine the energy use intensity of a facility. While the capabilities and functions of these benchmarking tools are different, each is a means to identify and prioritize building energy use and potential projects.

Step 3: Energy Project Prioritization Considerations

Public Resources Code section 26235(e)(1-11) requires "each participating LEA shall prioritize the eligible projects within its jurisdiction taking into consideration, as applicable, at least the following factors:

(1) The age of the facility, as well as any plans to close or demolish the facility

(2) The proportion of pupils eligible for funds under Title I of the federal No Child Left Behind Act of 2001 (20 U.S.C. Sec. 6301 et seq.) at a particular school site

(3) Whether the facilities have been recently modernized

(4) The hours of operation of the facilities, including whether the facilities are operated on a year-round basis

(5) The school's energy intensity as determined from an energy rating or benchmark system

(6) The estimated financial return of each project's investment over the expected life cycle of the project, in terms of net present value and return on investment

(7) Each project's potential for energy demand reduction

(8) The anticipated health and safety improvements or other non-energy benefits for each project

(9) The ability of an individual or collective project to facilitate matriculation of local residents into state-certified apprenticeship programs

(10) The expected number of trainees and direct full-time employees likely to be engaged for each LEA's annual funding commitments based upon a formula to be made available by the Energy Commission or California Workforce Investment Board. The formula shall be stated as labor intensities per total project dollar expended and may differentiate by type of improvement, equipment, or building trade involved.

(11) The ability of the project to enhance workforce development and employment opportunities, use members of the California Conservation Corps, certified local conservation corps, Youth Build, veterans, Green Partnership Academies, nonprofit organizations, high school career technical academies, high school regional occupational programs, or state-certified apprenticeship programs, or to accommodate learning opportunities for school pupils or at-risk youth in the community.

Each LEA shall consider these 11 factors when prioritizing energy projects for program awards. For all energy expenditure plans, an LEA is required to certify it considered these factors. (Note: factors 4-7 listed above are built into the benchmarking requirement in Step 2 and the cost-effectiveness requirement in Step 6.

Step 4: Sequencing of Facility Improvements

Public Resources Code section 26235(a)(3)(C) states the Energy Commission shall establish guidelines for sequencing of facility improvements.

The Energy Commission recommends LEAs use the sequencing approach described below for reducing energy. LEAs should select energy efficiency and demand reduction projects first.

Sequencing Approach

Outlined below is the sequencing order when considering facility improvements:

1) First, maximize energy efficiency (for example, installing daylighting or energy management systems).
2) Next, consider clean on-site energy generation (for example, solar, photovoltaic [PV], solar water heating, wind or an efficient biogas fueled fuel cell or combined heat and power system).
3) Finally, consider nonrenewable projects (such as an efficient natural gas fueled fuel cell or combined heat and power project system).

Typical K-12 Cost-Effective Energy Projects

To help LEAs follow this sequencing approach and identify potential energy projects, Exhibit B in the appendix provides a list of typical cost-effective K–12 school energy efficiency and alternative energy generation projects. These are only "typical" cost-effective energy projects and this list in no way replaces what may be actually cost-effective based on a full energy audit at the particular location, or the cost-effectiveness calculators provided by the Energy Commission in these *DRAFT Guidelines*. The listing is organized by energy project categories, such as lighting, lighting controls, HVAC, and so forth. Within each category, the projects are ranked using a score of 1–5, with 1 being the typically most cost-effective and 5 being the least attractive for most schools. The priority rankings are based upon potential energy savings, cost, and practicality. LEAs may consider Priority 1 projects in each category before considering Priority 2-5 projects.

Figure 2 provides a small sample of the many energy projects listed in Exhibit B of the appendix.

Figure 2: Sample of Exhibit B: Typical Cost-effective K–12 School Energy Projects

Lighting

Priority	*Project Example*	*Page # Reference*
1	Retrofit existing 4 foot and 8 foot T12 fluorescent fixtures with 28-watt T8 lamps.	36
1	Retrofit existing first-generation 32-watt T8 fixtures with 28-watt T8 lamps.	36

Heating, Ventilation, and Air Conditioning (HVAC)

Priority	Project Example	Page # Reference
1	Repair or install outside air economizers to reduce mechanical compressor cooling.	37
1	Replace older (10 years or more) air conditioning/heat pump, split, or packaged systems with high-efficiency units (with higher Seasonal Energy Efficiency Ratio [SEER]/Energy Efficiency Ratio [EER]).	37

Step 5: Energy Project Identification

Perform Energy Surveys or Energy Audits

Public Resources Code section 26235(a)(3)(B) states the Energy Commission shall establish guidelines for "the use of energy surveys or audits to inform project opportunities costs and savings."

LEAs shall choose one of three options to identify energy projects: 1) an energy survey, 2) an ASHRAE level 2 energy audit or 3) data analytics. For any approach, the Energy Commission reserves the right to assess the reasonableness of any project cost and energy savings estimates and may request additional information from the LEA to support the funding request. If an LEA has an existing energy survey, ASHRAE level 2 energy audit or data analytics report completed within the past three years, it may use this information to identify projects.

Option 1: Energy Survey

Some LEAs may have energy efficiency opportunities that do not require an ASHRAE level 2 energy audit. These are simple energy efficiency projects like retrofitting fluorescent light fixtures or adding occupancy sensor control to lighting systems. In these cases, the LEA may choose to use the Energy Commission's energy savings calculator tools to estimate the energy savings of a project. The Energy Commission will post online energy savings calculator tools upon approval of the *Guidelines*. Exhibit B in the Appendix is a list of typically cost-effective K–12 school energy efficiency projects organized by project categories. This list also indicates energy projects for which the Energy Commission will provide the online savings calculator tools.

LEAs using this option are still expected to survey and identify their energy projects and submit project information in their energy expenditure plans (see Step 7), such as:

- A description of the proposed energy efficiency projects and the buildings or facilities that will be affected by these projects.
- A description of the existing energy-using equipment (that is, type, age of equipment, size, number of units, and so forth).
- Energy savings estimates from the online calculator tool.
- A proposed budget detailing all project costs.
- A proposed schedule for implementation of the projects.

Option 2: ASHRAE Level 2 Energy Audit

Some complex energy efficiency projects will likely need an ASHRAE level 2 to clearly identify project cost and estimated energy savings. An LEA may choose to hire a third-party contractor, utility program audit, or LEA staff energy manager to complete an ASHRAE level 2 energy audit. This energy audit must include:

- A description of the proposed energy efficiency projects and the buildings or facilities that will be affected by these projects.
- A description of the existing energy-using equipment (that is, type, age of equipment, size, number of units, and so forth).
- All calculations and assumptions to support the technical feasibility and energy savings of the recommended projects.
- A proposed budget detailing all project costs.
- A proposed schedule for implementation of the projects.

Option 3: Other Tools: Data Analytics

Public Resources Code section 26235(b) states that "the Energy Commission shall allow the use of data analytics of energy usage data where possible in the energy auditing evaluation inventorying measuring and verification of projects. To ensure quality of results data analytics providers shall receive prior technical validation by the Energy Commission a local utility or the Public Utilities Commission."

Data analytics refers to what is typically called a "no-touch" or Web-based "virtual" energy audit assessment. A data analytics provider evaluates a facility's energy usage from metered data and other public information sources, such as digital photographs, satellite, and aerial images, and provides a benchmarking report with energy efficiency project recommendations without ever entering the facility. This technique combines the benchmarking process and the energy survey described in Option 1 above. LEAs may want to consider a no-touch audit as a tool to help them prioritize energy retrofit projects and better focus ASHRAE level 2 work. This is a new area of building energy science, and the Energy Commission and Public Utilities Commission do not currently offer technical validation. The Energy Commission plans to work on developing standards for data analytics. In order to expend Proposition 39 award funds for these data analytics, an LEA must provide documentation of prior technical validation of the technology by a local utility.

Step 6: Cost-Effectiveness Determination

Public Resources Code section 26206(c) states "All projects shall be cost effective: total benefits shall be greater than project costs over time." Section 26235(a)(3)(D) states the Energy Commission shall establish guidelines for "methodologies for cost-effectiveness determination."

Projects must achieve a minimum savings to investment ratio (SIR) of 1.05 to be approved for a Proposition 39 award. This ratio compares the investment the LEA will make now with the amount of dollar savings the LEA will obtain from the project's energy savings. For every dollar

invested in the energy project, the LEA will accrue $1.05 in savings. The SIR is based on the cumulative net present value of both energy benefits and non-energy benefits realized over the life of the project.

An individual project may have a SIR lower then 1.05, but the portfolio of bundled projects at each individual school site, submitted in one energy expenditure plan, must achieve a minimum SIR of 1.05.

To determine the SIR, the Energy Commission has created a SIR calculator to assist in calculating cost-effectiveness. The Energy Commission SIR calculator will provide the SIR for each project measure as well as a combined SIR value for a portfolio of bundled project measures. The SIR calculator will be available at the Energy Commission's Proposition 39 website at www.energy.ca.gov/efficiency/proposition39/index.html upon approval of the *final Guidelines*.

To use the SIR calculator, an LEA will need the following input values for each proposed project:

1) Annual energy savings (kWh, therms, gallons)
2) Demand savings (kW)
3) Annual energy cost savings
4) Project installation cost
5) Rebates/other financial incentives
6) Other matching grants (Any matching grant funds, (not including Proposition 39 awards) used to finance the project. This is funding that does not need to be repaid.)

Exhibit E in the Appendix explains the SIR calculation, including all assumptions built into the SIR formula.

Step 7: Complete and Submit an Energy Expenditure Plan

A: Submission of Energy Expenditure Plans

The energy expenditure plan is the application an LEA uses to request Proposition 39 program award funds to implement proposed energy projects. The energy expenditure plan includes all information specified in these *DRAFT Guidelines*. LEAs must complete and submit an energy expenditure plan to the Energy Commission, and that energy expenditure plan must be approved by the Energy Commission for the LEA to receive Proposition 39 program award funds. The energy expenditure plan form is available on the Energy Commission's website at __(website)_____.

In September 2013 and November for following fiscal years, the SSPI will announce each LEA's award for the current fiscal year. Once that award is known, LEAs may submit their energy expenditure plans to the Energy Commission. The Energy Commission will review energy expenditure plans as they are received. LEAs are encouraged to submit their completed energy expenditure plans as soon as possible to allow timely review and approval by the Energy Commission, so LEAs can meet targeted implementation schedules.

LEAs shall submit their energy expenditure plans, all project back-up documentation, and required certifications through the Energy Commission's website at _____(website)_____.

An LEA can submit its energy expenditure plan depending on the options provided for its award level as illustrated below in Table 6.

Table 6: Energy Expenditure Plan Options

Award Level	Energy Expenditure Plan Options
$50,000 or less	☐ Option 1: Yearly award energy expenditure plan ☐ Option 2: Two-year (bundled) award energy expenditure plan ☐ Option 3: A five-year complete award energy expenditure plan.
$50,001 or greater	Up to four energy expenditure plans may be submitted per fiscal year.

Source: California Energy Commission

Option 1: Annual award energy expenditure plan. Under Option 1, the LEA submits a new energy expenditure plan with new energy projects identified for only that current fiscal year's award to the Energy Commission for approval. If the full award is not budgeted for proposed projects, the balance (whether the full award amount or a portion) will roll over to the next year.

Option 2: Two-year (bundled) award energy expenditure plan. Under Option 2, small LEAs that submitted their two-year award requests to CDE are eligible to submit one energy expenditure plan, with energy projects totaling the two-year combined award funding. (Note: LEAs in Tier 1 and Tier 2 are eligible to receive a combined funding award for the current and following fiscal year in the current fiscal year. Two-year award funding requests must be made to CDE by September 1 of each year.) If the full award is not budgeted for proposed projects, the balance (whether the full award amount or a portion) will roll over to the next year.

Option 3: Five-year complete award energy expenditure plan. Under Option 3, the LEA submits one energy expenditure plan, with energy projects amounting to the estimated total five-year Program award. Based on the known first-year funding award, the LEA can estimate the remaining yearly awards and develop a complete five-year energy expenditure plan. The LEA and the Energy Commission will annually review the five-year plan to ensure the projects are still on track and adjust the plan if necessary.

B: Energy Expenditure Plan Content

LEAs must apply to the Energy Commission as specified in the energy expenditure plan form. LEAs are required to submit all energy project information on a standard energy expenditure plan format created by the Energy Commission.

The energy expenditure plan includes the following elements:

- ☐ Energy Planning Funds – (if requested in 2013-14) A description of use of planning funds and a financial breakdown of expenditures.
- ☐ Benchmarking EUI for all school sites **(STEP 2)**
- ☐ Energy project upgrades: Pre-installation verification form that includes:
  1. 2013-14 (or current year) award amount and estimate of 2014-17 amount if the plan includes future years.
  2. Project(s) description. **(STEP 5)**

3. Estimated energy savings (must include supporting engineering analysis or Energy Commission calculator results). **(STEP 5)**
4. Current energy usage (must include 12 prior months of electric and gas utility billing records). **(STEP 1)**
5. Estimated project cost (an itemized budget for the project that identifies all related costs and expenses). (**STEP 5** or contractor estimate**)**
6. Individual project backup documentation (energy audit or energy survey) **(STEP 5)**

- ☐ Energy Training request.
- ☐ Energy Manager request.
- ☐ Job Creation Benefits (see below and Appendix, Exhibit G for calculation methodology).
- ☐ Consent for the LEA's utility provider(s) to release 12 months of historical energy billing data and ongoing data to the Energy Commission. This includes all utility accounts and locations of meters for all school sites within an LEA. **(STEP 1)**
- ☐ The energy expenditure plan will also include the following certifications:

1. The LEA followed the Guidelines regarding Sequencing of Facility Improvements. **(STEP 4)**
2. The LEA followed the Guidelines regarding Energy Project Prioritization. **(STEP 5)**
3. The LEA commits to use the funds for the project(s) approved in the energy expenditure plan.
4. The LEA commits that the information included in the application is true and correct to the best of the LEA's knowledge.
5. The California Environmental Quality Act (CEQA) requirements have been met.
6. The LEA will obtain DSA project approval as applicable.
7. The LEA acknowledges that the expenditures are subject to financial audit requirements (Public Resources Code sections 26206(e) and 26240(g)).

Job Creation Benefits Estimation

Public Resources Code section 26235(e)(9) states "The individual or collective project's ability to facilitate matriculation of local residents into state-certified apprenticeship programs."

Public Resources Code section 26235(e)(10) states "The expected number of trainees and direct full-time employees likely to be engaged for each LEA's annual funding commitments based upon a formula to be made available by the Energy Commission or California Workforce Investment Board. The formula shall be stated as labor-intensities per total project dollar expended, and may differentiate by type of improvement, equipment, or building trade involved."

The California Labor and Workforce Development Agency, the California Workforce Investment Board (CWIB), the Energy Commission, and other state agencies collaborated to

provide the following information to prepare energy expenditure plans that contain an estimate of job creation and workforce effects of Proposition 39 projects.

Appendix G includes a simple step by step questionnaire for estimating job creation benefits. The Energy Commission intends to use this methodology to create an online job creation benefits calculator tool.

C: Energy Expenditure Plan Review Process

The Energy Commission is required to review and approve every LEA's energy expenditure plan. The Energy Commission will screen each energy expenditure plan for project eligibility criteria and completeness, and then evaluate the proposal for technical and financial accuracy and feasibility. No other criteria or scoring will be used to evaluate energy expenditure plans. Energy Commission staff will process the energy expenditure plans on a first-come, first-served basis.

Each energy expenditure plan will be reviewed as follows:

1) Energy Expenditure Plan Completeness: Energy Commission staff will review the energy expenditure plan for completeness. All applications must contain an analysis of project cost and supporting calculations of estimated annual energy and cost savings. If energy audits were performed, the analysis in energy audits must clearly state all assumptions used and the basis for those assumptions. If the energy expenditure plan is not complete, Energy Commission staff will contact the LEA to explain the reason for the determination and then request the required additional information in writing. The Energy Commission will return the energy expenditure plan to the LEA if additional information is not received within the time frame specified in the written request. When the energy expenditure plan is deemed complete, it will be recorded as "received," and the Energy Commission will continue the review process.
2) Project(s) Eligibility Criteria: A complete energy expenditure plan will be reviewed to determine if it meets the project(s) eligibility criteria.
3) Technical and Financial Reasonableness: Any energy expenditure plan meeting the project eligibility criteria will be screened for technical and financial reasonableness. The Energy Commission reserves the right to review all supporting engineering analyses to ensure accuracy of cost and energy savings estimates and reasonableness of assumptions used in calculations.

Energy Expenditure Plan Approval Process

After an energy expenditure plan passes all three review phases and is approved, the Energy Commission will notify the LEA and the CDE. Approximately once every quarter the CDE will process an apportionment for the total approved Proposition 39 funds since the last payment period. This process will take approximately one month. Upon completion, the apportionment package will be submitted to the State Controller's Office which will draw warrants in favor of County Treasurers in approximately three to four weeks. County Treasurers are then requested to deposit immediately the amount received to the appropriate funds of the county superintendents of schools for further distribution to school districts and charter schools.

Both the CDE and the Energy Commission will provide fiscal information on their respective websites, including total awards, payments made and remaining balances for all LEAs.

Energy Expenditure Plan Disapproval Process

Energy expenditure plan applications *may* be disapproved for funding and require resubmission if:

- The application does not contain all the requested information.
- The application is deemed incomplete and the requested additional information is not received within the time frame specified in the Energy Commission's written notification of incompleteness.
- The energy project or portfolio of energy projects does not meet the SIR of 1.05.

If the Energy Commission disapproves an energy expenditure plan, staff will contact the LEA representative to explain the reason(s) for disapproval and how the problems may be remedied. The Energy Commission will return the energy expenditure plan to the LEA, along with the reason(s) for disapproving the plan, for correction and resubmission.

Petition Of Reconsideration Of Expenditure Plan Denial; Appeal Of Executive Director's Decision

If an LEA's resubmission of materials is denied, an LEA may petition the office of the Executive Director for reconsideration if an expenditure plan is denied. The petition for reconsideration shall be submitted electronically or in writing to the Energy Commission docket for this proceeding (Docket # 13-CCEJA-1) at the address below, together with any supporting documentation within 30 days of the date the notice of denial is mailed to the LEA. The petition shall specify why the LEA believes the denial of the expenditure plan is improper given the eligibility criteria in the *Guidelines*, explain any supporting documentation filed with the petition, and identify the remedy sought. Within 30 days of receiving a complete petition, the Office of the Executive Director shall issue a decision on the petition. Petitions for reconsideration shall be submitted to the following address:

Dockets Unit
California Energy Commission
1516 Ninth Street, MS 4
Sacramento, CA 95814
(916) 654-5076

If an LEA disagrees with the decision of the Office of the Executive Director, the LEA may appeal the decision to the Energy Commission. The appeal must be filed within 15 days of the date the decision of the Office of the Executive Director is mailed to the LEA and shall consist of a letter of appeal stating why the decision is unacceptable, a copy of the petition for reconsideration and any supporting documentation, and the decision of the Office of the Executive Director. The appeal shall be sent to the Commission's Public Adviser at the following address:

California Energy Commission
Public Adviser's Office
1516 9th Street, MS-12
Sacramento, CA 95814-5512

Within 30 days of receiving the letter of appeal, the Public Adviser shall arrange for the appeal to be presented to the Energy Commission at a regularly scheduled Business Meeting. The

Public Adviser shall inform the appealing party in writing of the Business Meeting date and the procedures for participating in the Business Meeting. The appealing party shall be responsible for presenting the appeal to the Energy Commission during the Business Meeting. Unless otherwise determined during the course of the Business Meeting, the Commission shall determine the appeal during the Business Meeting. Energy Commission staff may present a response to the appeal when the matter is under consideration by the Energy Commission.

Step 8: Project Tracking and Reporting

Project Reporting Requirements

Public Resources Code section 26240(b) requires "As a condition of receiving funds from the Job Creation Fund, not sooner than one year but no later than 15 months after an entity completes its first eligible project with grant, loan, or other assistance from the Job Creation Fund, the entity shall submit a report of its project expenditures to the Citizens Oversight Board created pursuant to Chapter 3 (commencing with Section 26210)."

Public Resources Code section 26240(c) requires "If an LEA completes more than one project, the required information for a second and any subsequent project shall be submitted no later than the first full quarter following project completion."

For reporting purposes, an "eligible project" is considered the combined projects approved under a single energy expenditure plan. Therefore, following the above legal requirements, LEAs must report between 12-15 months after the completion of the first energy expenditure plan. An LEA shall submit a report of project expenditures to the Citizens Oversight Board (COB) and a copy to the Energy Commission. The Energy Commission intends to create an automated online program reporting system. This system will allow LEAs to submit the required project information in a standard format to be collected in the Energy Commission's publicly accessible database and will also generate a standard final project report LEA's must submit to the Citizens Oversight Board.

Quarterly Reports

LEAs are required to submit a quarterly progress status report for each approved energy expenditure plan to the Energy Commission, until all projects within an energy expenditure plan are completed. The Energy Commission intends to create a simple quarterly report template, which will be available on the Energy Commission's Proposition 39 webpage.

Final Reports

Public Resources Code section 26240(b)(1-7) requires "To the extent practical, this report shall contain information on all of the following:

(1) The total final gross project cost before deducting any incentives or other grants and the percentage of total project cost derived from the Job Creation Fund.

(2) The estimated amount of energy saved, accompanied by specified energy consumption and utility bill cost data for the school or site where the project is located.

(3) The nameplate rating of new clean energy generation installed.

(4) The number of trainees. (Appendix G)

(5) The number of direct full-time equivalent employees and the average number of months or years of utilization for each of these employees. (Appendix G)

(6) The amount of time between awarding of the financial assistance (that is, receiving the approved energy expenditure plan award deposit) and the completion of the project or training activities.

(7) The facility's energy intensity before and after project completion, as determined from an energy rating or benchmark system."

The statute requires LEAs include the above elements in the final report for each completed energy expenditure plan. LEAs are required to submit all completed project information on a standard final report format created by the Energy Commission. LEA's must follow the *Guidelines* below for reporting project energy savings and project job creation benefits.

Energy Savings Reporting Requirements

Public Resources Code section 26235(a)(1) states the Energy Commission shall establish guidelines for "Standard methods for estimating energy benefit including reasonable assumptions for current and future costs of energy and guidelines to compute the cost of energy saving as a result of implementing eligible projects funded by this chapter."

Determining the energy savings verifies whether the installed energy projects are realizing the estimated savings. LEAs are required to report the actual energy savings 12-15 months after the completion of the energy projects. This information will be reported only once for an energy expenditure plan. Therefore, 12-15 months after the completion of the last energy project within an energy expenditure plan, an LEA is required to report on the energy savings.

The actual annual energy savings is based on the difference between annual energy use before the project(s) is installed and the annual energy use after project installation.

The Energy saving report is required to have two sections: 1) site-level energy savings and 2) project level energy savings. Site-level energy savings is defined as the total energy savings for an individual school site. Project level energy savings is the energy savings realized by a specific project. Details for both sections are below.

1. Site-Level Energy Savings:

   All LEAs will have the utility energy usage and cost data reported from the 12-month period prior to the submission of the energy expenditure plan. (Step 1: Electric and Gas Usage/Billing Data requirement). Next, summarize utility energy usage and cost data for 12 months after project completion. LEAs can calculate pre and post retrofit energy use EUI as described in Step 2: Benchmarking or Energy Rating System or use other benchmarking tools including ENERGY STAR'S "Portfolio Manager" and data analytics tools to provide this EUI information.

2. Project-Level Energy Savings:

   Project-level energy savings shall be reported by choosing any one of the four methods (A-D) described below. For example, simple projects should require minimal time and

effort to determine the energy savings by choosing either option A or B below. An LEA can report the project level energy savings, choosing any one of the following methods:

A. Utility Incentive Completion Report. For energy efficiency projects that receive utility incentive, the M&V requirements of the utilities can be used to determine the actual energy savings.

B. Energy Commission Energy Savings Calculators Report. An LEA may choose to use the Energy Commission Energy Savings Calculators to estimate the actual energy savings for each project. These are the same calculators offered in the energy expenditure plan phase that provided energy savings estimates for less complex projects.

C. LEA's Own M&V Report. An LEA can calculate its own project energy savings using data from an energy management system, short-term monitoring (or data logging), and engineering calculations for each project. This M&V report can be submitted as the energy savings report.

D. Third-party M&V report. In some cases, an LEA may choose to hire an independent M&V consultant to conduct the detailed M&V for each energy efficiency project or for continuous monitoring. A third party-prepared M&V or commissioning report can also be used for this purpose.

Job Creation Benefits Calculation

LEAs must use the same job creation benefits calculation methodology as described in the energy expenditure plan section. See Appendix G.

The CWIB, in consultation with the Energy Commission, must use reports filed by LEAs to the COB to quantify total employment affiliated with funded projects, as well as to estimate new trainee, apprentice, or full-time jobs resulting from Job Creation Fund activity. The CWIB is required to prepare an annual report with this information and submit it to the COB.

Audit

Public Resources Code section 26206(e) states that "All projects shall be subject to audit."

Public Resources Code, Section 26240(h)(1) states, "The Superintendent of Public Instruction shall require local education agencies to pay back funds if they are not used in accordance with state statute or regulations, if a project is torn down or remodeled, or if the property is deemed to be surplus and sold prior to the payback of the project."

SSPI will use its standard process to correct LEA non compliant Proposition 39 expenditures.

ENERGY EXPENDITURE PLAN IMPLEMENTATION CHANGES

Project changes are sometimes unavoidable. If an LEA has project changes after the Energy Commission has approved its energy expenditure plan and the SSPI has distributed funding, a revised energy expenditure plan may be required. Any significant change in the approved energy expenditure plan will require "change of scope" approval. Significant changes are defined below:

- Adding a project not included in the approved energy expenditure plan
- Deleting a project in the approved energy expenditure plan
- Project cost increase by more than 15 percent
- A change of more than 15 percent in the approved equipment quantity installed. For example, installing a larger or smaller number of lighting fixtures in order to adjust to conditions found during retrofits.
- Relocating a project to a different site. For example, retrofitting HVAC units at School A, when the energy expenditure plan indicated the HVAC units for School B.

ENERGY PROJECT CONSTRUCTION COMPLIANCE REQUIREMENTS

Energy Efficiency Project Construction Compliance Requirements — the Division of the State Architect (DSA)

Not all energy efficiency projects funded by Proposition 39 require DSA review and approval. Depending on the estimated construction cost, DSA review and approval may be required for alteration or reconstruction projects.

DSA provides design and construction oversight for K–12 schools and community colleges. To ensure that buildings are safe, the DSA must review and approve public school construction for compliance with the *California Code of Regulations*, Title 24, the California Building Code (CBC), when alterations or additions are made to existing buildings.

Figure 3: DSA Compliance Requirements

Compliance Requirement	Description	For more information
Structural Safety Requirements for Energy Projects	Certain energy conservation and efficiency projects may be exempted from DSA structural safety review and approval.	http://www.documents.dgs.ca.gov/dsa/pubs/IR_A-10_rev02-22-13.pdf.
Accessibility Requirements for Energy Projects	Certain energy conservation and efficiency projects may trigger accessibility upgrades.	_____(LINK)
Energy and CALGreen Code Requirements for Energy Projects	Energy Efficiency Standards (CCR, Title 24, Part 6) will apply to alterations or additions made to existing public school buildings. CALGreen Code are exempt.	_____(LINK)

For more information on procedures and filing fees for submitting energy projects, refer to the DSA Bulletin BU _____ at the following Web page: _____(LINK)

CONTRACTS

Public Resources Code section 26206(d) states "All projects shall require contracts that identify the project specifications, cost, and projected energy savings.

All contracts need a clear and accurate description of the energy project, including material, products, or services to be procured, and a budget that includes cost and an estimate of the projected energy savings.

The *Guidelines* defer to the LEA's own procurement regulations and procedures as long as they reflect applicable state and local law, and regulations and are not in conflict with the minimum standards specified below:

- Projects funded by awards shall require contracts that identify the project specifications, costs, and projected energy savings. Public Resources Code section 26206(d).
- LEAs shall follow applicable law related to contractor qualifications, licensing, and certification requirements related to the project. Public Resources Code section 26235(a)(2).
- LEAs shall not use a sole-source process to award grant proceeds. LEAs may use the best-value criteria as defined in paragraph (1) of subdivision (c) of Section 20133 of the Public Contract Code to award funds. Public Resources Code section 26235(c).

NO RETROACTIVE FUNDING OF PROJECTS

An energy project award for implementation funding, as distinguished from energy planning funds, can be used to pay only for projects approved in an energy expenditure plan by the Energy Commission and implemented after the date the *final Guidelines* are approved at an Energy Commission Business Meeting. If energy projects implementation took place prior to the *final Guidelines* approval date, those energy projects are not eligible for retroactive Program award funding. For further clarification, energy projects implemented after July 1, 2013, but before the f*inal Guidelines* are approved, are not eligible for retroactive Program funding.

CHAPTER 3:
Additional Proposition 39 State Resources

1) Energy Conservation Assistance Act - Education Subaccount: Loan and Technical Assistance Program

PROGRAM SUMMARY

SB 73 transfers $28 million from the Job Creation Fund to the Energy Conservation Assistance Act, Education Subaccount (ECAA-Ed). Of that amount, about 90 percent will be used to provide low-interest or no-interest loans to LEAs and community college districts through the ECAA Loan Program. About 10 percent will be used by the Bright Schools Program to provide technical assistance grants to qualifying LEAs and community college districts needing support with energy efficiency project identification and planning.

ECAA-Ed (Proposition 39) Loan Program

The Energy Commission implements the ECAA Program pursuant to Public Resources Code section 25410, et seq., and the Title 20 of the California Code of Regulations, sections 1650 – 1655. The ECAA-Ed funds are available to fund low-interest or no-interest rate loans for energy efficiency and renewable energy retrofits. Eligible projects are required to generate energy cost savings sufficient enough to allow the loan principal and all accrued interest to be repaid to the Energy Commission within a maximum of 20 years. The simple payback is 20 years if the interest rate is set at 0 percent. The Energy Commission Program Opportunity Notice for ECAA-Ed loans will specify the interest rate, repayment period (includes principal and interest), the maximum simple payback period and requirements on building ownership.

Bright Schools Technical Assistance Grant Program

LEAs and community college districts may apply to the Bright Schools Program for technical assistance in planning how to best use Proposition 39 program award funds for school energy efficiency projects. Assistance is provided by the Energy Commission on a first come, first served basis. Energy Commission staff and consultants provide the energy technical assistance including energy audits and project recommendations. The grant is not provided in cash, but rather in the form of engineering and design assistance provided at no charge by the Energy Commission. This program is implemented pursuant to Public Resources Code section 25416(d).

Eligible Entities

LEAs and CCDs in public buildings are eligible for ECAA-Ed loans and grants for technical assistance.

Eligible Projects

To qualify for an ECAA-Ed loan, the following requirements must be satisfied:

1. Projects must meet the eligibility requirements for an ECAA-Ed loan as specified in Public Resources Code section 25410, et seq., and the Energy Commission's regulations in Title 20 of the California Code of Regulations, sections 1650 – 1655.

2. Loan applicants must satisfy all requirements as specified in the Energy Commission Program Opportunity Notice.

3. Projects must be technically and economically feasible.

4. Loans must be repaid from energy cost savings within a maximum of 20 years, including principal and interest.

5. The term of the loan may not exceed the useful life of the loan-funded equipment or the lease term of the building in which the loan-funded equipment will be installed.

6. Proposition 39 program funded loans will be repaid by the projects estimated annual energy cost savings achieved by the project.

Examples of eligible projects include, but are not limited to, the following:

- Lighting systems
- Heating and air conditioning modifications
- Pumps and motors
- Building insulation
- Alternative energy generation projects

Application Process

ECAA-Ed Loans

LEAs and CCDs in public buildings may apply for funding as specified in the Energy Commission's Program Opportunity Notice. Complete applications are evaluated and recommended for funding as specified in the Program Opportunity Notice.

Technical Assistance Grants

LEAs and CCDs in public buildings may apply to receive technical assistance from the Energy Commission through the Bright Schools Program.

2) California Workforce Investment Board Grant Program

The California State Workforce Investment Board (CWIB) will implement energy efficiency focused "earn-and-learn" job training and placement programs targeting disadvantaged job seekers. The goal of this program will be to train approximately 500 Californians for entry-level employment and create career pathways that are driven by public and private investment in energy efficiency and green building standards. Funded projects will create opportunities for disadvantaged youth and veterans to improve their qualifications for energy efficiency occupations and qualify for state-certified apprenticeship programs, community college career programs, and direct job placement.

Key program elements include:

- Pre-apprenticeship training aligned with local building trades councils and based on nationally certified Multi–Craft Core Curriculum.
- Training and placement requirements developed in alignment with energy efficiency work opportunities.
- Regional partnerships, resource and program alignment among local Workforce Investment Boards, employers, organized labor, K-12, community colleges, California Conservation Corps, and community-based stakeholders.
- Rigorous performance and evaluation methods to ensure program efficacy and continuous improvement; development of sustainably model to increase scale and/or replication of successful programs.

For additional information on the CWIB's Proposition 39 program, please go to: www.cwib.ca.gov/.

3) California Conservation Corps

With funding from the California Budget Act of 2013-14, and as part of California's plan to save energy and create jobs, the CCC will provide energy efficiency services to public schools for the fiscal years 2013-14 through 2017-18.

The CCC is a state agency putting young men and women, ages 18-25, to work on natural resource projects. Since its earliest days, these projects have included energy conservation work, from low-income home weatherization to solar panel construction to, most recently, energy surveys and retrofitting convenience stores through the EnergySmart Jobs program.

The CCC may assist LEAs:

1) ***Conducting energy surveys to assess building conditions, identify energy efficiency opportunities, and establish baseline use***. Teams of trained young adults, working under the supervision of professional CCC staff, will visit schools to collect 'whole building' energy use data in conformance with the Energy Commission's Guidelines. Surveys will be provided to qualifying K-12 schools at no or low cost.

2) ***Assisting with the implementation of basic energy efficiency measures***. As part of the project implementation, the CCC will have crews trained to directly install and/or assist

with the installation of basic energy efficiency measures such as lighting replacement, “occupancy” detectors for lighting, and "smart" power strips.

The Proposition 39 investment in schools is also an investment in the members of the CCC, as they prepare to enter the state's workforce. Through their work, the corps members will gain hands-on training, certificated technical education, and work experience designed to increase employment opportunities in green technology fields.

The CCC may extend this learning opportunity to schools by connecting with service learning, science classes, environmental clubs or career academy programs.

To learn more about the CCC’s Proposition 39 program call (916) 341-xxxx or email energycorps@ccc.ca.gov.

APPENDIX

Exhibit A:	**Proposition 39 Implementation Program 2013-14 Funding Allocation for Energy Projects**
Exhibit B:	**Typical Cost-effective K–12 School Energy Efficiency Projects**
Exhibit C:	**Proposition 39 Funding Pathway Example**
Exhibit D:	**Benchmarking Process**
Exhibit E:	**Saving to Investment Calculation**
Exhibit F:	**Effective Useful Life for Measures**
Exhibit G:	**Job Creation Benefits Calculation**
Exhibit H:	**Definitions**
Exhibit I:	**List of Acronyms**

Exhibit A: Proposition 39 Implementation Program 2013-14 Funding Allocation for Energy Projects

<table>
<tr><td rowspan="5">Majority of Funding for Awards to Local Educational Agencies (LEAs)

($428 million)</td><td rowspan="4">89% for K-12

($381 million)</td><td rowspan="2">85% of funds based on prior year average daily attendance (ADA)

(~$324 million)</td><td>$15,000 for LEAs with 100 or fewer ADA, plus FRPM</td><td rowspan="4">Supports deeper energy retrofit projects that will help ensure greater long-term energy savings and additional job creation.
Allows small districts (with ADA of 1,000 or fewer) to bundle two years of funding for larger energy projects, if requested in writing to CDE by August 1
Requires districts with funding over $1 million to use 50% of their award on large projects (defined as $250,000+)</td></tr>
<tr><td>Award based on ADA or $50,000,whichever is greater, for LEAs with more than 100 and 1,000 or less ADA, plus FRPM</td></tr>
<tr><td rowspan="2">15% of funds based on prior year eligibility for free and reduced-priced meals (FRPM)

(~$57 million)</td><td>Award based on ADA or $100,000, whichever is greater, for LEAs between 1,000 and 2,000 ADA, plus FRPM</td></tr>
<tr><td>Award based on ADA for LEAs of 2,000 or more ADA, plus FRPM</td></tr>
<tr><td>11% for CCDs

($47 million)</td><td colspan="3">Community colleges districts (CCD) represent 112 colleges and funds are allocated at the discretion of the Chancellor</td></tr>
<tr><td>$28 million</td><td colspan="2">California Energy Commission Energy Conservation Assistance Act
Education Subaccount: Loan and Technical Assistance Grant Program</td><td colspan="2">K-14 financing and technical assistance
Financing assistance includes low- or zero-interest loans</td></tr>
<tr><td>$3 million</td><td colspan="2">California Workforce Investment Board</td><td colspan="2">Competitive grants for community-based organizations and other workforce training organizations preparing veterans or disadvantaged youth for employment</td></tr>
<tr><td>$5 million</td><td colspan="2">California Conservation Corps</td><td colspan="2">Funding to perform energy surveys and other energy conservation-related activities</td></tr>
</table>

Sources: California State Budget – 2013-14, Senator Kevin de Leon and the California Energy Commission

Exhibit B: Typically Cost-effective K–12 School Energy Projects

These are only "typical" cost-effective energy projects and this list in no way replaces what may be actually cost-effective based on an ASHRAE level 2 audit or the cost-effectiveness calculators provided by the Energy Commission in these *Guidelines*.

Lighting

Priority	*Project Example*	
1	Retrofit existing 4 foot and 8 foot T12 fluorescent fixtures with 28-watt T8 lamps.	Calculator available
1	Retrofit existing first-generation 32-watt T8 fixtures with 28-watt T8 lamps.	Calculator available
1	De-lamp interior 28-watt T8, 32 watt T8, 4 foot or 8 foot T12 fluorescent fixtures (as appropriate).	Custom audit required
2	Replace incandescent lamps with screw-in compact fluorescent or light-emitting diode (LED) lamps.	Calculator available
3	Replace standard high-bay metal-halide gymnasium fixtures with fluorescent T5 or T8 high-output (HO) fixtures.	Calculator available
4	Replace fluorescent or incandescent-based exit signs with LED exit signs.	Calculator available
4	Replace mercury-vapor or high-intensity discharge (HID) lighting in parking lots with induction or LED lighting.	Calculator available

Lighting Controls

Priority	*Project Example*	
1	Add occupancy sensor controls.	Calculator available
1	Add photocell control to exterior lighting fixtures (bi-level if LED).	Custom audit required
2	Add daylighting controls when skylights are installed.	Custom audit required

Heating, Ventilation, and Air Conditioning (HVAC)

Priority	*Project Example*	
1	Conduct HVAC professional tune-ups, filter changes, and maintenance.	Custom audit required
1	Replace older (10 years or more) air conditioning/heat pump, split, or packaged systems with high-efficiency units (with higher Seasonal Energy Efficiency Ratio [SEER]/Energy Efficiency Ratio [EER]).	Calculator available
1	Repair or install outside air economizers to reduce mechanical compressor cooling.	Custom audit required
2	Replace older (20 years or more) space-heating boilers with high-efficiency or condensing units.	Calculator available
3	Replace older motors with new, premium-efficiency motors.	Calculator available
4	Install variable frequency drives on air-handler fans, water pumps, and motors.	Calculator available
4	Convert old multizone or dual-duct air handlers to variable air-volume systems.	Custom audit required
4	Install direct–indirect condenser cooling to increase SEER efficiency.	Custom audit required (mostly maintenance savings)
5	Evaluate ground-source heat pump to increase HVAC efficiency when conditions allow.	Custom audit required

HVAC Controls

Priority	*Project Example*	
1	Replace all manual thermostats with digitally controlled programmable thermostats that have override controls or twist timers.	Calculator available
1	Install door switch controls to shut down (or set to minimum fan speed) HVAC units to prevent excessive cooling and heating when classroom doors are open.	Custom audit required
2	Evaluate network thermostat or energy management system (EMS) with override controls.	Custom audit required
3	Add CO_2-based demand-controlled ventilation (DCV) to large spaces with variable occupancy (e.g., multipurpose room, gymnasium, garage).	Custom audit required
5	Retrofit pneumatic controls with direct digital control (DDC).	Custom audit required

Water Heating

Priority	*Project Example*	
2	Replace older (15 years or more), storage-type water heaters with instantaneous (“tankless”) water heaters, hybrid pump units, or point-of-use units.	Calculator available
3	Install condensing boiler or furnace when replacing old, inefficient units (15 years or older).	Calculator available
4	Evaluate solar hot-water heating for pools.	Custom audit required
5	Separate domestic hot-water loop from space-heating loop.	Custom audit required

Building Envelope

Priority	*Project Example*	
1	Add ceiling or roof insulation if there is no insulation currently in place (consider spray polyurethane foam [SPF]).	Custom audit required
1	Apply new weather stripping to doors that are exposed to outside air.	Custom audit required
1	Install window film on south- and west-facing windows.	Custom audit required
1	When reroofing, evaluate the use of cool roof materials with high reflectivity and emissivity per the Cool Roof Rating Council.	Custom audit required
2	Install skylights or solar tubes — coordinated with lighting controls.	Custom audit required
3	Replace windows with Energy Star–rated products (If the replacement window is the same size, the project may be exempt from the Division of the State Architect review).	Custom audit required
4	Provide shading devices on south-facing windows.	Custom audit required

Water-Efficiency Measures

Priority	*Project Example*	
1	Install drip irrigation systems.	Custom audit required
2	Install low-flow plumbing fixtures.	Custom audit required
3	Plant native, drought-tolerant plants and landscaping.	Custom audit required

Kitchen Equipment

Priority	*Project Example*	
2	Install evaporator fan controllers at all walk-in coolers and freezers.	Custom audit required
3	Install low-flow, pre-rinse spray valves at dishwashing area.	Custom audit required
3	Evaluate energy-efficient kitchen appliances and technologies to reduce energy and water use.	Custom audit required

Pool Equipment

Priority	*Project Example*	*Climate Zone (CZ) Recommendations*
1	Install and use pool covers at night or when pool is not used.	Custom audit required
4	Evaluate variable speed drive for swimming-pool circulation pumps.	Use HVAC variable frequency drives Calculator
4	Evaluate a pony pool pump for nighttime use.	Calculator available

Other Equipment

Priority	*Project Example*	*Climate Zone (CZ) Recommendations*
1	Implement automatic shutdown software on all computers.	Custom audit required
1	Install occupancy controls on all vending machines.	Custom audit required

Miscellaneous

Priority	*Project Example*	*Climate Zone (CZ) Recommendations*
1	Conduct commissioning (the process of verifying and documenting that the building and energy systems perform interactively according to the design intent and the operational needs).	Custom audit required
1	Develop a training program for energy-efficiency maintenance.	Custom audit required
1	Provide energy-efficiency awareness courses/seminars for students, including behavior modification.	Custom audit required
2	Plant deciduous shade trees on south side of buildings.	Custom audit required

Demand Response (DR)

Priority	*Project Example*	
1	Sign up for an air conditioning cycling program, if available in your area.	Custom audit required
2	Sign up for another DR program (either through your utility or with a Demand Response Aggregator) to develop a load shed plan. This plan will involve reduced use of lighting, office equipment, kitchen equipment, elevators, and so forth during DR events by dimming, cycling, or turning off some or all equipment.	Custom audit required
3	Install programmable communicating thermostats (PCTs) to help manage the air conditioning load; some utilities install these as part of their air conditioning cycling programs.	Custom audit required
4	To facilitate your ability to respond to DR events, install automatic controls such as energy management systems which reduce air conditioning load, lighting, or other equipment. Utilities offer rebates through their DR Technical Incentives and Auto DR programs that cover some of the costs of this equipment.	Custom audit required
5	Evaluate thermal energy storage for shifting load away from peak hours.	Custom audit required

Alternative Energy Project — Renewable Energy Generation

Priority	*Project Example*	
5	Evaluate solar photovoltaic (PV) installation.	Custom audit required
5	Evaluate wind installation.	Custom audit required
5	Evaluate co-generation system installation (combined heat and power projects).	Custom audit required

Exhibit C: Proposition 39 Funding Pathway Example

Energy Planning Funding Option
If requested, Energy Planning funding can be used to pay for the required Proposition 39 Energy Commission *Guidelines*

SIMPLE PATHWAY TO PROPOSITION 39 ENERGY FUNDING:

- **Step 1:** Electric and Gas Usage/Billing Data
  - ✓ 12 months site energy usage before project installation
- **Step 2:** Benchmarking of facilities
- **Step 3:** Energy Project Prioritization Considerations (Statue required considerations)
- **Step 4:** Sequencing of Facility Improvements (Energy Commission recommendations)
- **Step 5:** Energy Project Identification
  - ✓ Perform Energy Survey
- **Step 6:** Cost-Effectiveness Determination
  - ✓ Use Energy Commission Calculator
- **Step 7:** Complete and Submit an Energy Expenditure Plan
  - ✓ Energy Expenditure Plan reviewed and approved
- LEA Independent Responsibilities
  - ✓ DSA Compliance
  - ✓ CEQA Compliance
  - ✓ Contracting
  - ✓ Project Management
- **Step 8**: Project Tracking and Reporting
  - ✓ 12 months site energy usage after project installation
  - ✓ Use Energy Commission Calculator

PROPOSITION 39 FUNDING PATHWAY EXAMPLE

All LEAs must follow this basic pathway; however, some LEAs with large funding awards may choose other options within each of the steps.

For example, within Step 5 Energy Project Identification, an LEA may need to complete an ASHREA level 2 energy audit for energy project identification and analysis. See page X for the "Process to Receive K-12 Energy Project Award Funding" section.

Exhibit D: Benchmarking Process

Energy Benchmarking Steps

1. **Gather Energy Data and Summarize Energy Data**

   Gather and summarize energy usage data for all energy sources, including electricity, natural gas, and fuel oil. To accomplish this, an LEA gathers the last 12 months of utility bills, including electricity, natural gas, and fuels, to calculate the EUI. If a school has two or more meters for electricity, natural gas, or other fuels, the utility data shall be combined for one EUI calculation. Benchmarking a facility must be performed on a school-by-school basis. Table 4 shows the data required to calculate EUI. If LEA staff members have difficulty gathering this information, they may contact their local utility or energy provider.

Table 4: Example of School Energy Use Data Annual Summary

FACILIT	XYZ School								
UTILITY	PG&								
School	E 11,000								
SOFT·		Electricit			Ga		Other		Total
		Account		Rat	Accoun	Rat	(propane/diesel		Cos
	Yea r	Averag Pea Deman d (kW)	Total Us (kWh)	Charges ($)	Total Gas Therms)	Natural Gas Charges ($)	Total Fuel Gallons)	Fue Charge ($)	Total Charges ($)
Tota l	201	63.	85,81	$ 16,465	6,928	$ 6,030	0	$ -	$ 22,495

Source: California Energy Commission

2. **Establish Energy Use Intensity**

   Establish an EUI for your school. After collecting 12 months of energy cost data and knowing the square footage of your school, the next step is calculating the EUI by dividing the annual energy use by the gross[5] square footage of the school for each end-use energy category. For example, in Table 4, the LEA staff looking at XYZ School divides the total 85,815 kWh use by the total square footage of 11,000 to obtain the electricity use intensity of 7.8 kWh/sq.ft/year. Next, perform the same calculations for natural gas, other fuels and total cost.

   Table 5 below shows the EUIs for XYZ School. The two numbers (highlighted in yellow) the Total Energy Cost/sq.ft./year and Kbtu/sq.ft./year are the two numbers required in the energy expenditure plan.

5Square footage inside the perimeter of exterior walls (less courtyards).

Table 5: Benchmarking Report for XYZ School

Annual Electricity (kWh)		Annual Natural Gas (Therms)		Annual Other Fuel		Energy Costs/ sq.ft/ year	[6]Kbtu/ sq.ft/year
KWh/sq ft	7.8	Therms/sq ft	0.44	Gallons/sq ft	0		
Cost/sq ft	$1.16	Cost/sq ft	$0.39	Cost/sq ft	$0.00	$1.55	127.8

Source: California Energy Commission

3. **Create Benchmarking Report and Rank Schools**

   Based on the EUI, a benchmarking report is created. This is a simple report that lists the EUI for each school site. Simply sort the school sites based on the energy use intensity and rank in order.

4. **Identify the Lowest Energy Performers**

   Identify the lowest energy performing schools. These will be the schools with the highest energy cost per square foot and highest Kbtu per square foot. The report ranking will present the schools that consume the most energy when compared to others in the district.

6 Kbtu/sq ft/year = (kWh use x 10,716* + Therm use x 100,000 + propane gallon x 92,500 + fuel oil gallons x 138,500) / 1000 /total gross square footage of school.
*Electricity conversion factor to source energy is 10,716 Btu/kWh.

Exhibit E: Savings to Investment (SIR) Calculation

The SIR is calculated based on net present value divided by project installation cost subtracting project rebates, other grant fund sources, and non-energy benefits using Equation 1 below. The SIR value is automatically calculated using the Energy Commission's SIR calculator.

Equation 1: Savings to Investment Ratio (SIR)

SIR = NPV/(Project Installation Cost – Rebates – Other Grants – Non-energy Benefits)

Definitions:

- NPV: Net present value of project cost savings.
- Project Installation Cost: The total of all project design, equipment, and labor costs.
- Rebates: Utility rebates or other incentives that reduce the project costs.
- Other Grants: Any matching grant funds, (not including Proposition 39 awards) used to finance the project. This is funding that does not need to be repaid.
- Non-Energy Benefits: Other associated project benefits such as enhanced comfort, better indoor air quality, and improved learning environment.

How Is the Net Present Value Calculated in the SIR?

When calculating the net present value of a project, the escalation rate in energy cost, rate of inflation, and discount rate over time are considered. Moreover, the annual maintenance cost savings of the project is not expected to exceed 2 percent of the project installation cost. Finally, the net present value is calculated using the effective useful life of the equipment based on the Exhibit F Table 1 in the appendix. The NPV is automatically calculated using the Energy Commission's SIR calculator.

Equation 2: Net Present Value

NPV = Energy Cost Savings + Maintenance Savings

Definitions:

- Energy Cost Savings: Total energy cost savings realized over the life of the equipment, including kWh energy, kW demand, natural gas, and other liquid fuel savings.
- Maintenance Savings: Annual maintenance cost/savings (maximum 2 percent of project cost).

Assumptions[7]:

7 Time Dependent Valuation of Energy for Developing Building Efficiency Standards, for the California Energy Commission by Energy + Environmental Economics.

- Energy cost escalation rate = 2.1 percent
- Discount rate = 5.1 percent
- Inflation Rate = 2 percent

How Are the Non-Energy Benefits Calculated in the SIR?

The non-energy benefits are expected to provide savings, avoided costs, and other monetary benefits. For example, the health benefits of improved indoor air quality, which may improve student and teacher health and result in reduced absenteeism. These costs are quantified as a percentage of the project installation cost. The Energy Commission SIR calculator automatically accounts for non-energy benefits.

Equation 3: Non-Energy Benefits

Non-Energy Benefits = 3% x Project Installation Cost

Definitions:

- A 3 percent adder is used to estimate non-energy benefits associated with all energy efficiency projects.
- Project Installation Cost: Includes project design, site preparation, equipment, and labor costs.

The non-energy benefits considered by the Energy Commission are:

- Improved lighting quality.
- Improved acoustics.
- Improved indoor air quality.
- Improved occupant comfort.
- Improved health and safety

How Are the Energy Savings Calculated in the SIR?

For the Proposition 39 program, energy savings are based on the difference between annual energy use under existing conditions and annual energy use under proposed conditions. These annual energy savings, and the corresponding annual energy cost savings, are used to determine the cost-effectiveness of the projects. Demand savings are calculated as the difference between the electricity demand of existing equipment and electricity demand of proposed equipment.

Exhibit F: Effective Useful Life for Measures in Years

Measure Category	Measure Type	Measure	Effective Useful Life
HVAC	HVAC Controls and Retro-commissioning	Air Handler Controls & Repairs	5
		EMS and programmable controls	11
		Install new economizer	10
		Programmable Thermostat	11
		Retro-commissioning, Repair & Maintenance	5
		VFD Fan Control	15
	HVAC Equipment	Boilers and AC rooftop units	20
		Chiller and Boiler	20
		Chiller Replacement	20
		Chiller Retrofit and Controls Upgrade	20
		Heat recovery unit	14
		High efficiency propane furnaces, fuel switching	15
		Packaged/Split DX Heat Pump	15
		Packaged/Split DX HVAC	15
Lighting	Lighting Exterior	Exterior Lighting	15
		Traffic Lighting	10
	Lighting Interior	Fixture Retrofit	15
		Lamp Replacement	4
		Occupancy Sensor Controls	8
	Street Lighting	Induction Street Lighting	16
		LED Street Lighting	15
Other	Domestic Hot Water	DHW Boiler or Tank Water Heater	20
	Plug Load	LCD monitors	4
		Power Management	4
		Vending Machine Miser	5
	Motors and Drives	Efficient Motor	15
	Wastewater	VFD on water pumps	15
PV	Distributed Generation	Photovoltaics	20
		Inverter	8

Background: Effective Useful Life for Measures in Years

How is the Effective Useful Life (EUL) for energy efficiency measures determined? And what are the EULs for other renewable or generation projects?

The EUL list for the energy efficiency measures is mainly determined from the 2008 and 2011 update of Database for Energy Efficiency Resources (DEER) for building related energy efficiency measures. The general approach for selecting EULs for this 2008 and 2011 DEER Update was to review the various data sources and their underlying strengths and weaknesses and provide EUL recommendations that were determined to be most appropriate, based on the information that was available.

There is insufficient data for renewable and other generation projects in the DEER database and there is not a consensus number for these projects. The Energy Commission will consider other renewable and generation projects on a case by case basis based on available information, required maintenance and project warranty period.

Exhibit G: Job Creation Benefits Calculation

Required Jobs and Workforce Development Information

The following questions offer a simple means of complying with the legal requirements of the Proposition 39 program.

1. **What type of work will be completed through this project, and what is the project budget?** Please fill in the corresponding budgets for each applicable type of work.

Type of Work / Project	Budget
ENERGY EFFICIENCY	
a. Energy efficiency measures for building envelope (e.g. insulation and air sealing, windows, doors, skylights, walls, roof)	
b. Energy efficiency measures for mechanical systems (e.g. heating, ventilating, air conditioning, plumbing)	
c. Energy efficiency measures for electrical systems (e.g. lighting fixtures, lighting controls)	
d. Other energy efficiency measures (please specify):	
e. Total Energy Efficiency Budget (add a through d)	
RENEWABLE ENERGY	
f. Solar energy generation system installation	
g. Other renewables (please specify):	
h. Total Renewable Energy Budget (add f and g)	
CLEAN ADVANCED DSITRIBUTED ENERGY	
i. Co-generation/combined heat and power system	
j. Fuel cell generation system	
k. Other distributed energy system (please specify)	
l. Total Clean Energy Budget (add i-k):	
TOTAL PROJECT	
m. Total Project Budget (add e, h,and l):	

2. **How many estimated direct job-years[8] will be created by the project?**

Type of Work / Project	Estimated Direct Job-Years Created
a. Energy Efficiency (multiply project budget from #1e by 5.6 direct job-years per $1 million invested)[9]	
b. Renewable Energy (multiply project budget from #1h by 4.2 direct job-years per $1 million invested)[10]	
c. Clean Distributed Energy (multiply project budget from #1l by 4.2 direct job-years per $1 million invested)[11]	
d. Total Project (add a through c)	

8 A job-year is defined as a full-time job that lasts for one year—not one permanent job.
9 A review of studies on labor intensity of energy efficiency projects indicates that on average 5.6 direct job-years are created per $1 million invested for energy efficiency retrofits. See Zabin and Scott, Proposition 39: Jobs and Training for California's Workforce, page 11: http://www.irle.berkeley.edu/vial/publications/prop39_jobs_training.pdf
10 A review of two studies on solar PV labor intensity indicates that on average 4.2 direct job-years are created per $1 million invested for solar energy generation system installation. See Zabin and Scott, page 11.
11 It is assumed all clean distributed energy generation systems have the same labor-to-investment ratios as the solar PV average of 4.2 direct job-years per $1 million invested.

3. **How many direct job-years will be filled by first-year apprentices?**[12]

Total direct job-years from #2d: _____divided by 36 = _____

4. **Will other types of trainees be employed on this project? If so, how many and what types of trainees?**

12 Roughly two-thirds of the direct jobs on Proposition 39 projects will be in traditional construction trades occupations, according to occupational analysis from the 2011 California Workforce Education and Training Needs Assessment for Energy Efficiency, Distributed Generation, and Demand Response by the UC Berkeley Donald Vial Center. In public works construction the California Labor Code requires at least one hour of apprentice work for every five hours of journey-level work on a project. Therefore, apprentice jobs are roughly equivalent to total direct jobs multiplied by one-ninth (two-thirds times one-sixth) or, put more simply, total direct jobs divided by 9. Energy Commission staff estimates that first-year apprentices would comprise one-quarter of these apprentice jobs (equivalent to total direct jobs divided by 36) based on the assumption that apprenticeship programs average four years and that there is an even distribution of first-year through fourth-year apprentices for these projects.

Exhibit H: Definitions

a) **Applicant** – Any entity applying for funds under this program.

b) **American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)** – ASHRAE is an international technical society organized to advance the arts and sciences of heating, ventilation, air-conditioning and refrigeration.

c) **Average Daily Attendance (ADA)** – The state of California funds LEAs based on student attendance. ADA is the total days of student attendance divided by the total number of instructional days.

d) **Award** – The amount of funding allotted to an LEA in a fiscal year as calculated by the CDE and as defined in Public Resources Code Section 26235(c)(6). The award is only provided upon approval of an expenditure plan by the Energy Commission.

e) **Building Envelope** –The outer shell of the building that separates the controlled indoor environment from the uncontrolled outdoor environment or building enclosure.

f) **Bundled Projects** – A portfolio (group) of energy and other qualifying project measures located at the same school campus address.

g) **California Community Colleges Chancellor's Office (CCCCO)** –The state agency that oversees the California Community College District system.

h) **California Conservation Corps (CCC)** – The state department that provides full-time employment opportunities for young men and women, ages 18-25, and veterans to gain work experience, skills and training while performing important resource conservation projects for California.

i) **California Department of Education (CDE)** – The department responsible for overseeing the state's public school system, and enforcing education law and regulation.

j) **California Energy Commission (Energy Commission or CEC)** – The primary state agency responsible for energy policy and planning.

k) **California Public Utilities Commission (CPUC)** – The state agency that regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.

l) **California Workforce Investment Board (CWIB)** – The state agency that is responsible for assisting the Governor in performing the duties and responsibilities required by the federal Workforce Investment Act of 1998.

m) **Chairman** – The member of the Energy Commission who directs the Public Adviser, the Executive Director, and other staff in the performance of their duties in conformance with the policies and guidelines established by the Energy Commission.

n) **Data Analytics** – A "no-touch" or Web-based "virtual" energy assessment.

o) **Division of the State Architect (DSA)** – The state agency responsible for design and construction oversight for K–12 schools, community colleges, and various other state-owned and leased facilities.

p) **Eligible for Free and Reduced-Priced Meals (FRPM)** – Determined to meet federal income eligibility criteria or deemed to be categorically eligible for free or reduced-priced meals under the National School Lunch Program, as described in Part 245 of Title 7 of the Code of Federal Regulations.

q) **Energy Use Intensity (EUI)** – The amount of energy used in a building relative to the size of the building.

r) **Energy Expenditure Plan** – The request by an LEA for Proposition 39 funding. The energy expenditure plan is submitted to the Energy Commission and includes technical description and specifications for proposed eligible energy projects and other qualifying measures.

s) **Funding Award** – Award of funds to an applicant under this Program through a funding distribution, contract, grant, loan or interagency agreement.

t) **Kbtus –** One thousand British thermal units (btus). Btus is the traditional unit of energy. It is the amount of energy needed to cool or heat one pound of water by one degree Fahrenheit.

u) **kWh –** One kilowatt of electricity supplied for one hour.

v) **kW –** One thousand watts.

w) **Lead Commissioner for Energy Efficiency Policy Matters** – The member of the Energy Commission charged with policy direction for all matters concerning energy efficiency at the Energy Commission including, but not limited to, Proposition 39 implementation.

x) **Local Educational Agency (LEA)** – A county office of education, school district, charter school, or state special school.

y) **Local Utility**– Energy utility (not a water utility).

z) **Program** – California Clean Energy Jobs Act, Public Resources Code Division 16.3 added by Proposition 39 and SB 73.

aa) **Program Element** – The subject area designated for funding by the California Clean Energy Jobs Act or the 2013-14 Budget Act (that is, energy efficiency for LEAs).

bb) **Project Installation Cost** – The total of all project cost including design, site preparation, equipment, and labor.

cc) **Project Measure** – An energy project located at one LEA facility site.

dd) **Savings-to-Investment Ratio (SIR)** – The SIR is the ratio of the present value savings to the present value costs of an energy efficiency project or alternative energy generation project.

ee) **School Site** – Any local educational agency facility site. Examples include a school campus, district office, County Office of Education facility or charter school facility.

ff) **Second Principal Apportionment (P-2)** – Apportionment based on the second period data that LEAs report to the CDE in April and May and is the final state aid payment for the fiscal year ending in June.

gg) **State Superintendent of Public Instruction (SSPI) –** The SSPI is the elected official of the State of California who superintends the schools of the state and is the executive officer of the CDE.

Exhibit I: List of Acronyms

ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ADA	Average Daily Attendance
BTU	British Thermal Unit
CALGreen	California Code of Regulations, Title 24, Part 11,Green Building Standards
CBC	California Building Code
CCC	California Conservation Corps
CCCCO	California Community Colleges Chancellor's Office
CCD	Community College District
CCR	California Code of Regulations
CDE	California Department of Education
CEQA	California Environmental Quality Act
COB	Citizens Oversight Board
CPUC	California Public Utilities Commission

CWIB	California State Workforce Investment Board
DSA	Division of the State Architect
ECAA	Energy Conservation Assistance Act
ECAA-Ed	Energy Conservation Assistance Act-Education Subaccount: Loan and Grant Program
EUI	Energy Use Intensity
FRPM	Free and Reduced-priced Meals
HVAC	Heating, Ventilation, and Air Conditioning
K-12	Kindergarten through 12th Grade
Kbtus	One thousand British Thermal Units
kW	One thousand watts
kWh	One kilowatt of electricity supplied for one hour
LEA	Local Educational Agency
LED	Light-Emitting Diode

M&V	Monitoring and Verification
NPV	Net Present Value
O&M	Operations and Maintenance
P-2	Second Principal Apportionment
PV	Photovoltaic
SB	Senate Bill
SIR	Savings to Investment Ratio
SQ FT	Square Footage
SSPI	State Superintendent of Public Instruction