

Memorandum

To: Patrick Kemp
Assistant Secretary for Administration and Finance
California Natural Resources Agency
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

January 12, 2015

From: California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512


Robert Oglesby
Executive Director

California Energy Commission

DOCKETED**15-BSTD-01**

TN # 74382

JAN 26 2015

**Subject: STANDARD FORM 399 FOR BUILDING ENERGY EFFICIENCY STANDARDS
RULEMAKING PROCEEDING**

Attached for your review and signature is a Department of Finance Standard Form 399, Economic and Fiscal Impact Statement. The form is being submitted in support of a rulemaking proceeding for the California Building Energy Efficiency Standards, Title 24, Parts 1 and 6. This rulemaking will update existing energy efficiency standards for newly constructed buildings, and additions and alterations to existing buildings. We are submitting this form to you for the "Agency Secretary" signature (see page 4 of Std. 399), which will need to be provided to the Office of Administrative Law to initiate the public notice for the rulemaking.

If you have any questions regarding the content or the processing of this form, please contact Adrian Ownby, Energy Commission Specialist, at 916-651-3008 or Maziar Shirakh, Senior Mechanical Engineer, at 916-654-3839.

Robert P. Oglesby
Executive Director

Attachment

cc: Adrian Ownby, Maziar Shirakh

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

ECONOMIC IMPACT STATEMENT

DEPARTMENT NAME California Energy Commission	CONTACT PERSON Adrian Ownby	EMAIL ADDRESS adrian.ownby@energy.ca.gov	TELEPHONE NUMBER 916-651-3008
DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400 Revisions to the California Building Energy Efficiency Standards (the Standards)			NOTICE FILE NUMBER Z

A. ESTIMATED PRIVATE SECTOR COST IMPACTS *Include calculations and assumptions in the rulemaking record.*

1. Check the appropriate box(es) below to indicate whether this regulation:

- | | |
|--|---|
| <input checked="" type="checkbox"/> a. Impacts business and/or employees | <input checked="" type="checkbox"/> e. Imposes reporting requirements |
| <input checked="" type="checkbox"/> b. Impacts small businesses | <input type="checkbox"/> f. Imposes prescriptive instead of performance |
| <input checked="" type="checkbox"/> c. Impacts jobs or occupations | <input checked="" type="checkbox"/> g. Impacts individuals |
| <input type="checkbox"/> d. Impacts California competitiveness | <input type="checkbox"/> h. None of the above (Explain below): |

If any box in Items 1 a through g is checked, complete this Economic Impact Statement.***If box in Item 1.h. is checked, complete the Fiscal Impact Statement as appropriate.***2. The California Energy Commission estimates that the economic impact of this regulation (which includes the fiscal impact) is:
(Agency/Department)

- ☐ Below \$10 million
- ☐ Between \$10 and \$25 million
- ☐ Between \$25 and \$50 million
- ☒ Over \$50 million *[If the economic impact is over \$50 million, agencies are required to submit a [Standardized Regulatory Impact Assessment](#) as specified in Government Code Section 11346.3(c)]*

3. Enter the total number of businesses impacted: unknownDescribe the types of businesses (Include nonprofits): all businesses with a physical presence in state will (eventually) be impactedEnter the number or percentage of total businesses impacted that are small businesses: 80%4. Enter the number of businesses that will be created: unknown eliminated: unknownExplain: see attachment5. Indicate the geographic extent of impacts: ☒ Statewide
☐ Local or regional (List areas): _____6. Enter the number of jobs created: unknown and eliminated: unknownDescribe the types of jobs or occupations impacted: Companies that provide energy efficient products and services will benefit from the increased demand for those products and services; see attachment7. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here? ☐ YES ☒ NOIf YES, explain briefly: _____

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

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ECONOMIC IMPACT STATEMENT (CONTINUED)**B. ESTIMATED COSTS** *Include calculations and assumptions in the rulemaking record.*

1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime? \$ 1,034 million
- a. Initial costs for a small business: \$ 33,650 Annual ongoing costs: \$ 0 Years: 15-30
- b. Initial costs for a typical business: \$ 33,650 Annual ongoing costs: \$ 0 Years: 15-30
- c. Initial costs for an individual: \$ 2,452 Annual ongoing costs: \$ 0 Years: 30
- d. Describe other economic costs that may occur: Increased costs will results from improved building envelopes (wall, roofs, windows), HVAC equipment and testing, improved lighting and water heating technology requirements
2. If multiple industries are impacted, enter the share of total costs for each industry: Nonresidential Construction (63%), Residential Construction (37%)
3. If the regulation imposes reporting requirements, enter the annual costs a typical business may incur to comply with these requirements. Include the dollar costs to do programming, record keeping, reporting, and other paperwork, whether or not the paperwork must be submitted. \$ _____
4. Will this regulation directly impact housing costs? ☒ YES ☐ NO
If YES, enter the annual dollar cost per housing unit: \$ 2,258
Number of units: 132,400
5. Are there comparable Federal regulations? ☐ YES ☒ NO
Explain the need for State regulation given the existence or absence of Federal regulations: Federal regulations do not apply to state, local and private sector construction in California.
Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: \$ _____

C. ESTIMATED BENEFITS *Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. Briefly summarize the benefits of the regulation, which may include among others, the health and welfare of California residents, worker safety and the State's environment: Individuals and businesses will benefit from the reduction in energy costs. Businesses that provide energy efficiency products and services may experience an increase in business. All state and local government agencies and their tenants will benefit.
2. Are the benefits the result of: ☒ specific statutory requirements, or ☐ goals developed by the agency based on broad statutory authority?
Explain: The Energy Commission has authority granted by statute to adopt statewide building energy efficiency standards.
3. What are the total statewide benefits from this regulation over its lifetime? \$ 4,016 million
4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: California businesses producing energy efficiency products/technologies that meet or exceed the proposed Standards will likely expand their sales of those products/technologies due to the implementation of these proposed Standards.

D. ALTERNATIVES TO THE REGULATION *Include calculations and assumptions in the rulemaking record. Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. List alternatives considered and describe them below. If no alternatives were considered, explain why not: See attached.

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

ECONOMIC IMPACT STATEMENT (CONTINUED)

2. Summarize the total statewide costs and benefits from this regulation and each alternative considered:

Regulation: Benefit: \$ 4,016 million Cost: \$ 1,034 million

Alternative 1: Benefit: \$ _____ Cost: \$ _____

Alternative 2: Benefit: \$ _____ Cost: \$ _____

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives:

The Standards are fundamentally performance based (with the exception of limited mandatory provisions). See attached.

4. Rulemaking law requires agencies to consider performance standards as an alternative, if a regulation mandates the use of specific technologies or equipment, or prescribes specific actions or procedures. Were performance standards considered to lower compliance costs?

☒ YES☐ NOExplain: Performance Standards are a fundamental part of the proposed Standards.**E. MAJOR REGULATIONS** *Include calculations and assumptions in the rulemaking record.****California Environmental Protection Agency (Cal/EPA) boards, offices and departments are required to submit the following (per Health and Safety Code section 57005). Otherwise, skip to E4.***1. Will the estimated costs of this regulation to California business enterprises **exceed \$10 million**? ☐ YES ☐ NO***If YES, complete E2. and E3******If NO, skip to E4***

2. Briefly describe each alternative, or combination of alternatives, for which a cost-effectiveness analysis was performed:

Alternative 1: _____

Alternative 2: _____

(Attach additional pages for other alternatives)

3. For the regulation, and each alternative just described, enter the estimated total cost and overall cost-effectiveness ratio:

Regulation: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

Alternative 1: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

Alternative 2: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

4. Will the regulation subject to OAL review have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding \$50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented?

☐ YES ☒ NO*If YES, agencies are required to submit a Standardized Regulatory Impact Assessment (SRIA) as specified in Government Code Section 11346.3(c) and to include the SRIA in the Initial Statement of Reasons.*

5. Briefly describe the following:

The increase or decrease of investment in the State: _____

The incentive for innovation in products, materials or processes: _____

The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency: _____

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

FISCAL IMPACT STATEMENT**A. FISCAL EFFECT ON LOCAL GOVERNMENT** *Indicate appropriate boxes 1 through 6 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

- ☐ 1. Additional expenditures in the current State Fiscal Year which are reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ _____

- ☐ a. Funding provided in _____
Budget Act of _____ or Chapter _____, Statutes of _____

- ☐ b. Funding will be requested in the Governor's Budget Act of _____
Fiscal Year: _____

- ☒ 2. Additional expenditures in the current State Fiscal Year which are NOT reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ 39.1 million

Check reason(s) this regulation is not reimbursable and provide the appropriate information:

- ☐ a. Implements the Federal mandate contained in _____
- ☐ b. Implements the court mandate set forth by the _____ Court.

Case of: _____ vs. _____

- ☐ c. Implements a mandate of the people of this State expressed in their approval of Proposition No. _____

Date of Election: _____

- ☐ d. Issued only in response to a specific request from affected local entity(s).

Local entity(s) affected: _____

- ☐ e. Will be fully financed from the fees, revenue, etc. from: _____

Authorized by Section: _____ of the _____ Code;

- ☒ f. Provides for savings to each affected unit of local government which will, at a minimum, offset any additional costs to each;

- ☐ g. Creates, eliminates, or changes the penalty for a new crime or infraction contained in _____

- ☒ 3. Annual Savings. (approximate)

\$ 160.7 million

- ☐ 4. No additional costs or savings. This regulation makes only technical, non-substantive or clarifying changes to current law regulations.

- ☐ 5. No fiscal impact exists. This regulation does not affect any local entity or program.

- ☐ 6. Other. Explain _____

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

FISCAL IMPACT STATEMENT (CONTINUED)**B. FISCAL EFFECT ON STATE GOVERNMENT** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*☒ 1. Additional expenditures in the current State Fiscal Year. (Approximate)\$ 19.5 million*It is anticipated that State agencies will:*☒ a. Absorb these additional costs within their existing budgets and resources.☐ b. Increase the currently authorized budget level for the _____ Fiscal Year☒ 2. Savings in the current State Fiscal Year. (Approximate)\$ 80.3 million☐ 3. No fiscal impact exists. This regulation does not affect any State agency or program.☐ 4. Other. Explain _____**C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ _____

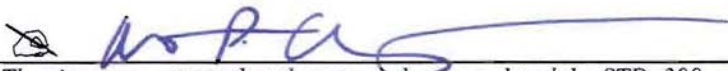
☐ 2. Savings in the current State Fiscal Year. (Approximate)

\$ _____

☐ 3. No fiscal impact exists. This regulation does not affect any federally funded State agency or program.☒ 4. Other. Explain The proposed regulations impact state-financed buildings but are not expected to directly impact federal funding of state programs except in limited circumstances; see attachment.

FISCAL OFFICER SIGNATURE

DATE

1-12-15*The signature attests that the agency has completed the STD. 399 according to the instructions in SAM sections 6601-6616, and understands the impacts of the proposed rulemaking. State boards, offices, or departments not under an Agency Secretary must have the form signed by the highest ranking official in the organization.*

AGENCY SECRETARY

DATE

1/22/15*Finance approval and signature is required when SAM sections 6601-6616 require completion of Fiscal Impact Statement in the STD. 399.*

DEPARTMENT OF FINANCE PROGRAM BUDGET MANAGER

DATE



ECONOMIC IMPACT STATEMENT

A. ESTIMATED PRIVATE SECTOR COST IMPACTS

2. Estimated economic impact.

California's Building Energy Efficiency Standards (Standards) are part of the California Building Construction Standards and therefore not subject to review and approval by the Office of Administrative Law and therefore do not trigger the Standardized Regulatory Impact Assessment requirement.

3. Number of businesses impacted.

California's Building Energy Efficiency Standards (Standards) are part of the California Building Construction Standards and therefore impact nearly all newly constructed buildings, as well as specific additions and alterations to nearly all existing buildings. Therefore, the Standards may eventually impact all business and individuals in the state that own buildings. We are unsure exactly how many such "businesses" are in California at any single point in time.

4 and 6. Number of businesses and jobs created and eliminated.

The proposed Standards are cost effective over the life of the measure. Increased energy efficiency in California's buildings will have short term initial costs, but long term benefits from reduced utility costs. For individuals, this will result in increased disposable income, and for businesses lower costs and (most likely) additional profit. However, it is unclear how many businesses and jobs will be created based on the marginal impact from the implementation of the proposed Standards. The following industries are the most positively impacted by increased energy efficiency, renewable generation and demand response¹:

- Residential Building Construction (NAICS 2361)
- Nonresidential Building Construction (NAICS 2362)
- Electrical Contractors (NAICS 23821)
- Plumbing, Heating, and Air-Conditioning Contractors (NAICS 23822)
- Drywall and Insulation Contractors (NAICS 23831)
- Manufacturing (NAICS 32412, 3279, 3332, 3334, 3336, 3341, 3342, 3344, 3345, 3351, 3352, 3353, 3359 (part))
- Advertising and Related Services (NAICS 5418)
- Engineering Services, Architectural Services, Environmental Consulting Services, Other Scientific and Technical Consulting Services (NAICS 541 (part))
- Management of Companies and Enterprises, Public Administration (NAICS 5511, 92 (part))
- Office Administrative Services (NAICS 5611)

¹ The University of California, Berkeley "California Workforce Training and Needs Assessment for Energy Efficiency, Distributed Generation and Demand Response." See Table 3.10 et seq., pages 69-75, http://www.irl.berkeley.edu/vial/publications/WET_Part1.pdf.

B. ESTIMATED COSTS

1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime?

The amount listed on line 1 of \$1,034 million is the sum of the residential and nonresidential measure costs for all newly constructed buildings, additions and alternations for 2017. The question specifies the “lifetime of the regulation,” and these regulations are expected to have an extended lifetime. Staff considered and rejected interpreting the “regulation over its lifetime” to mean three to five years, which is the cycle of regular updates to the Standards, and instead opted to provide annual data. The life expectancy for residential and nonresidential buildings is assumed to be 30 years. For mechanical and electrical equipment in nonresidential buildings and outdoor lighting the life expectancy is assumed to be 15 years.

1(a, b) Initial costs for a small business and initial costs for a typical business.

The Standards do not differentiate between a small business and a typical business but rather impact construction that may occur in nearly all public and private buildings in California. To provide this estimate, we calculated a weighted per square foot cost based on the proposed changes to the Standards, the types of nonresidential buildings the Standards would be applied to, and the estimated newly constructed buildings by nonresidential building type from 2012 through 2020. We then applied this weighted average cost per square foot (\$2.24) to a hypothetical 15,000 square foot nonresidential building. Staff calculated the cost impact of the proposed Standards from additions and alterations activity using a multiplier estimate based on the ratio of dollar activity of commercial newly constructed buildings to commercial additions and alterations provided by the California Industrial Relations Board. The additions and alternations cost is included in the statewide total dollar costs, but that cost is not reflected in the small business or typical business initial costs. The initial costs associated with the proposed Standards for newly constructed buildings will be substantially higher than the initial costs for additions and alterations in existing nonresidential buildings. To make a conservative estimate of the cost to a typical business, the cost per square foot estimate was applied to a scenario that a typical business uses a 15,000 square foot newly constructed building. It should be noted that, assuming nonresidential construction costs average \$150 per square foot, the additional costs from the proposed Standards will increase the cost of the building by approximately 1.5%.

1(c) Initial costs to an individual.

The initial cost to an individual of \$2,452 is based on the increased single family house average cost, which ranges, depending on climate zone it is built in, between \$1,015 and \$2,917 for a prototype single family house. The value listed in the summary is a weighted average for the single family newly constructed buildings estimated for 2017. Low-rise multifamily buildings (those with three or fewer habitable stories) are subject to residential Standards; however, the cost of

residential construction impacts ownership entities not individual tenants directly. If low-rise multifamily residential units are considered in the calculation, the average initial cost for an individual would be \$2,258. Staff calculated the cost impact of the proposed Standards from additions and alterations activity using a multiplier estimate based on the ratio of dollar activity of residential newly constructed buildings to residential additions and alterations provided by the California Industrial Relations Board. The costs of residential additions and alterations are included in the statewide total dollar costs, but are not reflected in the individual initial costs. The initial costs associated with the proposed Standards for newly constructed buildings will be substantially higher than the initial costs for additions and alterations to existing residential building.

4. Will the regulation directly impact housing costs?

The \$2,258 value listed here is the average initial cost per housing unit (single family and low-rise multifamily) of estimated newly constructed housing in 2017. The number of housing units listed at 132,400 is a rounded up value that represents the total estimated 108,033 single family homes and the 24,309 low rise multifamily units of newly constructed housing for 2017.

C. ESTIMATED BENEFITS

3. What are the total statewide benefits from this regulation over its lifetime?

The total statewide benefit listed on the Std 399 form is \$4,034 million dollars, which is rounded from the 399 spreadsheet value of \$4,016,411,350. This value is the sum of the time dependent energy valuation net present value energy savings for residential and nonresidential measures for all newly constructed buildings, additions and alterations for 2017. The question specifies the "lifetime of the regulation" and these regulations are expected to have an extended lifetime. Staff considered and rejected interpreting the "regulation over its lifetime" to mean three to five years, which is the cycle of regular updates to the Standards, and instead opted to provide annual data. The life expectancy for residential buildings measures is assumed to be 30 years. The life expectancy for residential and nonresidential buildings is assumed to be 30 years. For mechanical and electrical equipment in nonresidential buildings and outdoor lighting the life expectancy is assumed to be 15 years.

D. ALTERNATIVES TO THE REGULATION

1. List alternatives considered and describe them below. If no alternatives were considered, explain why not:

For more than thirty-five years, legislative enactments and state energy policies have directed the Energy Commission to adopt cost-effective building standards to improve energy efficiency and thereby improve the state's economy, energy security, and environment. (See Public Resources Code sections 25007 and 25402(a)(1), (a)(3), & (b)(3); 2013 IEPR.) At this time the Commission is not aware of alternatives to the proposed regulations that would be more effective

than the proposed regulations in achieving the energy-efficiency goals of these directives, or that would be equally effective and have a lower adverse impact on small businesses (or on any other economic interests). However, it is quite likely that during the course of the rulemaking, the Commission will receive comments that are helpful in improving the proposed Standards. Moreover, during the initial informal stage of the rulemaking process the Commission conducted an extensive public process that considered many suggestions from stakeholders about (1) alternatives that could improve the feasibility of the Commission's preliminary versions of the proposed regulations or could reduce their adverse impacts; (2) the technical and cost-effectiveness analyses of those preliminary proposals; and (3) the language in those proposals. The main suggestions and the Commission's responses are discussed in the Initial Statement of Reasons.

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives:

Because the Standards are fundamentally performance-based there are multiple options and multiple "pathways" to meeting the Standards. Given the plethora of available options the Energy Commission chose the most cost effective to present in this analysis.

E. MAJOR REGULATIONS

4. Will the regulation subject to OAL review have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding \$50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented?

The proposed Standards are not subject to Office of Administrative Law review. The Standards are part of the California Building Construction Standards, which are not subject to review and approval by the OAL and therefore do not trigger the Standardized Regulatory Impact Assessment requirement.

FISCAL IMPACT STATEMENT

A. FISCAL EFFECT ON LOCAL GOVERNMENT

2 and 3. Additional expenditures and savings.

Current fiscal year is assumed to be 2017, the first year the Standards will be in effect. Data on local government existing building stock is very limited, as is data on proposed local government building construction. Only local government owned buildings, not leased buildings, are relevant to these calculations. These expenditures and savings values were calculated based on an estimate that 6% of the total costs of nonresidential newly constructed buildings, additions and alterations to existing buildings, would apply to local government. Based on these assumptions the expenditures per year in line 2 are estimated at \$39.1 million while the net present value annual savings are estimated on line 3 at \$160.7 million.

A. FISCAL EFFECT ON STATE GOVERNMENT

1 and 2. Additional expenditures and savings

These expenditures and savings values were calculated based on an estimate that three percent of the total costs of nonresidential newly constructed buildings, additions and alterations to existing buildings, would apply to state government. The three percent figure is based on the rough (under-reported) estimate of over 12,000 buildings owned by the state and the estimated 600,000 commercial buildings in California. Based on these assumptions the expenditures per year in line 2 are estimated at \$19.5 million while the net present value annual savings are estimated on line 3 at \$80.3 million.

C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS

4. Other. Explain:

State agencies that are reimbursed for utility costs by the Federal Government may have reduced utility costs and therefore have lowered Federal reimbursements reflecting those lowered utility costs.