

**REVISED ATTACHMENT TO
FULLY EXECUTED ECONOMIC IMPACT STATEMENT
March 13, 2015**

California Energy Commission

DOCKETED

15-BSTD-01

TN # 75475

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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 to 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)

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.irlle.berkeley.edu/vial/publications/WET_Part1.pdf.

- 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)

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 coincident with the \$1,034,093,819 listed as the total on the Summary sheet of the 399 spreadsheet. This value is the sum of the residential and nonresidential measures 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 (see CIRB Statewide Nonresidential worksheet in the 399 Excel file). 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 home. 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 costs 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 (see CIRB Statewide Residential worksheet in the 399 Excel file). The costs of residential additions and alternations 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 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 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, e.g., Public Resources Code sections 25007 and 25402(a)(1), (a)(3), & (b)(3); cite most recent 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 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 and therefore 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 percent 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 \$5.4 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 \$2.7 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.