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ECONOMIC AND FISCAL IMPACT STATEMENT
Addendum A
2025 California Energy Code (Title 24, Parts 1 and 6)
[CEC 01/24]

A. ESTIMATED PRIVATE SECTOR COST IMPACTS

2. Estimated economic impact.

The proposed updates to the 2025 California Energy Code are not a “Major Regulation” as defined by Government Code section 11342.548 for which a Standardized Regulatory Impact Assessment is required. Section 11342.548 defines “Major Regulation” as “any proposed adoption, amendment, or repeal of a regulation subject to review by the Office of Administrative Law pursuant to Article 6 [of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code] that will have an economic impact on California business enterprises and individuals in an amount exceeding fifty (50) million dollars as estimated by the agency”. The proposed 2025 California Energy Code provisions are “building standards” as defined by Health and Safety Code section 18909 and Government Code section 11342.530 and are not “subject to review by the Office of Administrative Law pursuant to Article 6.” Consequently, they do not meet the definition of a Major Regulation.¹

3. Number of businesses impacted.

California’s Energy Code is part of the California Building Standards Code (Title 24) and therefore impacts nearly all newly constructed buildings, as well as specific additions and alterations to existing buildings. Therefore, the Energy Code may eventually impact all business subject to Title 24.

Based on the number of businesses in the “Advanced Energy Employment” sector, the CEC estimates between 21,500 to 43,000 businesses are impacted by the implementation of the Energy Code.² This reflects a range of between half of all the businesses in the Advanced Energy Employment sector at the low end, and all businesses in the Advanced Energy sector being impacted at the high end.

The following industries are the most impacted by the proposed regulations³:

- Residential Building Construction (NAICS 2361)

¹ See Government Code Section 11342.548 and Health and Safety Code 18930.²

² See TN #223071-2 (<https://efiling.energy.ca.gov/GetDocument.aspx?tn=223071-2>).

³ 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, https://laborcenter.berkeley.edu/pdf/2011/WET_Part1.pdf.

- 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)

4, 5, and 6. Number of businesses and jobs created and eliminated

The proposed regulations are required by statute (Public Resources Code § 25402 (b)(3)) to be cost-effective when amortized over the economic life of the structure compared with historic practice. Increasing energy efficiency in California’s buildings through the Energy Code often incurs short term initial costs, largely imposed on California homebuilders and commercial building developers, but results in long-term benefits to numerous residents and businesses across the state. For residents and businesses alike, advancing the state’s Energy Code results in reduced energy costs, lower costs of ownership, and thereby lower risks of default for borrowers. The following industries are the most positively impacted by the proposed regulations⁴:

- 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)

⁴ See footnote 3.

- 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)

The CEC has made the initial determination that the proposed regulations for the 2025 Energy Code will result in an estimated 6,215 jobs created and 18 jobs eliminated. Jobs created and eliminated estimates were developed with support from Evergreen Economics using IMPLAN modeling software. The IMPLAN model provides a relatively simple representation of the California economy, however, it is important to understand that the IMPLAN model simplifies the extremely complex actions and interactions of individual, businesses, and other organizations as they respond to changes in energy efficiency codes. The estimated jobs eliminated are the result of proposed measures that will increase central water heating pipe efficiency requirements in newly constructed multifamily buildings, which will result in increased costs for builders. This measure results in incremental costs and thereby decrease discretionary income.

California's Energy Code is part of the California Building Standards Code and therefore impacts nearly all newly constructed buildings, as well as to specific additions and alterations to existing buildings. As a result, the 2025 Energy Code is expected to eventually impact all businesses in the state that own buildings. While there are initial up-front costs imposed by the Energy Code, there are significantly more lifetime savings to residents and businesses across the state who will experience lower energy costs and lower overall costs of ownership. The Energy Code helps create long-term economic growth and stability by increasing the disposable income of Californians and California businesses in the longer term making it possible that new businesses may be created to provide compliance services and to supply energy efficient products. Therefore, the CEC concludes that the proposal may create some additional business and is unlikely to eliminate existing businesses within the state of California. Given the uncertainty, and the many unknown variables in making these projections, the CEC is conservatively assuming there will be no additional businesses created.

7. 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?

The CEC has made an initial determination that the proposed regulations are unlikely to have a statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. Despite minor competitive impacts to California businesses in the short term, the long-term benefits of the proposed regulations will not disadvantage California businesses from competing with businesses in other states.

On the contrary, California's Energy Code is part of the California Building Standards Code and therefore, impact nearly all newly constructed buildings, as well as to specific additions and

alterations to nearly all existing buildings. Therefore, the Energy Code may eventually impact all business in the state that own buildings. While there are initial up-front costs imposed by the Energy Code, there are significantly more lifetime savings to residents and businesses across the state who will experience lower energy costs and lower overall costs of ownership.

There are long-term savings that typically more than compensate for initial upfront costs by a significantly positive ratio. Past changes to the Energy Code continue to generate benefits. More simply, the Energy Code helps create long-term economic growth and stability by increasing the disposable income of Californians and California businesses in the longer term. These long-term benefits far outweigh the initial upfront costs and, therefore, California businesses are not disadvantaged in competing with businesses from other states by these regulations. Since the 1970s, California has maintained a deep history of progressive environmental and energy regulations that also save consumers money.

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 total amount listed on line B1, \$688,161,701, is the net present value cost of the 2025 Energy Code over its expected 30-year lifetime. This includes residential and nonresidential incremental measure costs for all newly constructed buildings, additions, and alterations. By statute, measures in the Energy Code are required to be evaluated for cost-effectiveness when amortized over the economic life of the structure (30 years) when compared with historic practice.

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

The Energy Code is applicable to newly constructed buildings, as well as additions and alterations to existing buildings. As such, CEC’s analysis does not distinguish between small business or typical businesses, since these designations are assigned to occupants and often change throughout the lifetime of buildings. Rather, the CEC has provided a breakdown of initial cost ranges by commercial building types. Estimated per square footage costs for newly constructed nonresidential buildings, and additions, vary by location and building type. These amounts were multiplied by the respective portion of California’s statewide building stock that was anticipated to be affected to arrive at the total cost.

Building Type	Estimated Low Cost per Square Foot	Estimated High Cost per Square Foot
Large Office	\$2.70	\$3.25
Medium Office	\$3.38	\$4.91
Small Office	\$2.55	\$2.57
Large Retail	\$3.91	\$5.33
Medium Retail	\$2.80	\$3.34

Strip Mall	\$0.13	\$0.16
Mixed-Use Retail	\$2.50	\$2.50
Large School	\$2.50	\$2.66
Small School	\$2.82	\$3.34
Non-Refrigerated Warehouse	\$2.64	\$2.65
Hotel	\$2.50	\$2.66
Assembly	\$2.50	\$2.66
Hospital	\$2.61	\$2.78
Laboratory	\$18.34	\$18.50
Restaurant	\$2.55	\$2.73
Enclosed Parking Garage	-----	-----
Open Parking Garage	-----	-----
Grocery	\$2.50	\$2.50
Refrigerated Warehouse	\$3.17	\$3.33
Controlled Environment Horticulture	\$37.38	\$37.38
Vehicle Service	\$2.50	\$2.50
Manufacturing	\$2.80	\$2.80
Miscellaneous	\$2.50	\$2.50

These per square foot estimates do not include select measures that do not lend themselves to accounting through a per square foot metric. Specifically, updates to regulations impacting pool and spa heating systems are expected to impose additional initial costs of \$88.4 million. This amount and other relatively nominal amounts were included in the total.

CEC estimates that nonresidential construction costs average roughly \$300 per square foot. The additional costs from the proposed Energy Code are expected to increase the cost of nonresidential buildings by approximately 0.043 – 12.5% depending on the building type and its location. It is anticipated that this marginal increase will have limited to no substantive impact on the commercial construction industry overall.

1(c) Initial costs to an individual.

The 2025 Energy Code introduces a cost-effective prescriptive requirement applicable in specific climate zones where a heat pump space conditioning system is installed in an existing single-family building. This prescriptively requires that the appropriate amount of refrigerant that is installed in that system be confirmed via field verification and diagnostic testing procedures, in order to ensure that the system performs efficiently. As this proposal is a prescriptive measure which is allowed to be traded off for other efficiency measures via the performance approach,

and as it is only applicable to buildings in certain climate zones and certain space conditioning system types, this measure could or could not apply to any particular individual.

Consequently, the CEC has included an initial cost to individuals of \$0 - \$303.

4. Will the regulation directly impact housing costs?

The proposed regulations are required by statute (Public Resources Code § 25402 (b)(3)) to be cost-effective when amortized over the economic life of the structure. Increasing energy efficiency in California's buildings through the Energy Code often incurs short term initial costs, largely imposed on California homebuilders and commercial building developers, but results in long-term benefits to large amounts of residents and businesses across the state. For residents and businesses alike, advancing the state's Energy Code results in reduced energy costs, lower overall expenses for renters, lower costs of ownership and thereby lower risks of default for borrowers.

There is significant evidence that the cost increases associated with complying with the Energy Code have no statistically significant impact on median single-family home sale prices.⁵ Initial costs imposed on homebuilders and developers are included as initial costs in B1, but not considered significant enough to impact housing costs in the state. Currently, two identical homes in California – one that complies with the Energy Code that is currently in effect, and another that would comply with this proposed set of regulations – would have the same market value. Notable factors that are known to impact housing costs are neighborhood comparable homes ("comps"), location, home size, age, interest rates, and other economic indicators; the Energy Code does not impact these factors.

C. ESTIMATED BENEFITS

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:

Beyond the monetary benefits, the CEC estimates that the implementation of the 2025 Energy Code updates will result in a significant net reduction in the emissions of greenhouse gases, nitrous oxide, sulfur oxides, carbon monoxide, and particulate matter attributable to electricity generation and on-site combustion. Indirectly, these emissions reductions are expected to improve indoor and outdoor air quality resulting in health benefits to Californians and significant climate change mitigation benefits.

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

The total amount listed on line C3, \$4,834,909,279, is the net present value of the 2025 Energy Code over its expected 30-year lifetime. This includes residential and nonresidential incremental measures costs for all newly constructed buildings, additions, and alterations. By statute,

⁵ <https://efiling.energy.ca.gov/GetDocument.aspx?tn=223055>.

measures in the Energy Code are required to be evaluated for cost-effectiveness when amortized over the economic life of the structure (30 years) when compared with historic practice.

The CEC has provided a breakdown of savings ranges by commercial building types. Estimated per square footage costs for newly constructed nonresidential buildings, and additions, vary by location and building type. These amounts were multiplied by the respective portion of California’s statewide building stock that was anticipated to be affected to arrive at the total savings.

Building Type	Estimated Low Savings per Square Foot	Estimated High Savings per Square Foot
Large Office	\$36.29	\$78.50
Medium Office	28.98	80.89
Small Office	22.75	38.65
Large Retail	48.41	117.87
Medium Retail	28.32	50.49
Strip Mall	0.47	7.59
Mixed-Use Retail	8.78	9.86
Large School	18.87	38.12
Small School	39.88	77.13
Non-Refrigerated Warehouse	10.41	19.27
Hotel	8.78	10.52
Assembly	18.87	38.12
Hospital	23.92	42.11
Laboratory	63.52	93.66
Restaurant	9.84	12.66
Enclosed Parking Garage	-----	-----
Open Parking Garage	-----	-----
Grocery	8.78	9.86
Refrigerated Warehouse	8.78	23.34
Controlled Environment Horticulture	668.51	669.59
Vehicle Service	8.78	9.86
Manufacturing	11.49	12.57
Miscellaneous	8.78	9.86

D. ALTERNATIVES TO THE REGULATION

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

Since 1975, legislative enactments and state energy policies have directed the CEC to adopt cost-effective building standards to conserve energy and improve energy efficiency and thereby improve the state's economy, energy security, and environment.⁶ The CEC has been presented with and has considered multiple alternatives to the proposed standards; however, at this time no reasonable alternatives to the proposed regulations have been proposed that would lessen any adverse impact on small businesses or that would be less burdensome and equally effective in achieving the purposes of the regulation in a manner that achieves the purposes of the statute being implemented.

During the initial, informal stage of the rulemaking process, the CEC conducted an extensive pre-rulemaking public process – including eleven (11) public workshops – where it considered many suggestions from numerous stakeholders about (1) alternatives that could improve the feasibility of the CEC'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. Based on the comments received and the aforementioned robust public process the CEC developed and published preliminary rulemaking code language.

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

California's Energy Code is a performance-based standard that allows for immeasurable ways to comply as long as limited mandatory measures are also met.

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 updates to the 2025 Energy Code are not a "Major Regulation" as defined by Government Code section 11342.548 for which a Standardized Regulatory Impact Assessment is required. Section 11342.548 defines "Major Regulation" as "any proposed adoption, amendment, or repeal of a regulation subject to review by the Office of Administrative Law

⁶ See Public Resources Code sections 25007 and 25402(a)(1), (a)(3), & (b)(3); 2016 Integrated Energy Policy Report Update (http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-01/TN216281_20170228T131538_Final_2016_Integrated_Energy_Policy_Report_Update_Complete_Repo.pdf).

pursuant to Article 6 [of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code] that will have an economic impact on California business enterprises and individuals in an amount exceeding fifty (50) million dollars as estimated by the agency”. The proposed 2025 Energy Code provisions are “building standards” as defined by Health and Safety Code section 18909 and Government Code section 11342.530, as such, they are subject to review by the California Building Standards Commission and are not “subject to review by the Office of Administrative Law pursuant to Article 6.” [of Chapter 3.5 of Part 1 of Division 3 of Title 2 of the Government Code] Consequently, they do not meet the definition of a “Major Regulation.”

FISCAL IMPACT STATEMENT

A. FISCAL EFFECT ON LOCAL GOVERNMENT

6. Other

Building construction data specific to local governments is limited. The state’s real estate inventory is maintained by the Real Estate Services Division and reflects a total of 254,424,389 square feet of state-owned floor area.⁷ CEC estimates that state owned buildings account for roughly 3% of the state’s total nonresidential floor area, and 6% for local government.

Based on these assumptions, the expenditures per year are estimated at \$29 million beginning in 2026, while total lifetime savings are estimated at \$168 million. These savings represent an annual savings of approximately \$5.6 million over a 30-year period.

Only local government owned buildings, not leased buildings, are relevant to these calculations. Existing leased buildings should not be impacted except in those cases where the lease agreements allow for rent increases in the event of retrofit work. And, even in those cases, the retrofit costs would have to be for work that was impacted by the proposed 2025 changes to the Energy Code. New leases cannot be assumed to be for newly constructed buildings, and as with the sale price of newly constructed homes, rents are not based on the costs of construction but rather are based on marketplace demand and supply.

B. FISCAL EFFECT ON STATE GOVERNMENT

4. Other

The 2025 Energy Code will be in effect in 2026. Current fiscal year is assumed to be 2023-2024. For future years, state expenditures per year are estimated at \$14.4 million beginning in 2026, while total lifetime savings are estimated at \$82 million. These savings represent an annual savings of approximately \$2.7 million over a 30-year period. These expenditures and savings values were calculated based on an estimate that three (3) percent of the total costs of nonresidential newly constructed buildings, additions, and alterations to existing buildings,

⁷ Real Estate Services Division, SPI Summary, as of October 2024. <https://www.dgs.ca.gov/RES/RESOURCES/Page-Content/Real-Estate-Services-Division-Resources-List-Folder/Statewide-Property-Inventory/SPI-Summary>

would apply to state government. The three (3) percent figure is based on the Department of General Services' (DGS) Statewide Property Inventory from October 2023.⁸

Only state government owned buildings, not leased buildings, are relevant to these calculations. Existing leased buildings should not be impacted except in those cases where the lease agreements allow for rent increases in the event of retrofit work. And, even in those cases, the retrofit costs would have to be for work that was impacted by the 2025 changes to the Energy Code. New leases cannot be assumed to be for newly constructed buildings, and as with the sale price of newly constructed homes, rents are not based on the costs of construction but rather are based on marketplace demand and supply.

C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS

4. Other

The proposed regulations are not expected to directly affect any federally funded State agency or program.

⁸ <https://www.dgs.ca.gov/RES/Resources/Page-Content/Real-Estate-Services-Division-Resources-List-Folder/Statewide-Property-Inventory/SPI-Summary>. Department of General Services (DGS) Statewide Property Inventory from October 2023 showed Total Statewide Property (office space & other) = 278,146,804 ft², which represents 3% of the existing statewide construction.