

# Economic and Fiscal Impact Statement (Form 399)

## Attach A2 - EV regulations - Medium- and Heavy-duty vehicles 45day

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### Amend the 2022 California Green Building Standards Code, CCR, Title 24, Part 11

#### BACKGROUND

This proposed action by the California Building Standards Commission (BSC) adopts mandatory green building standards for occupancies within its authority. The intent of the code continues to: (1) reduce greenhouse gas (GHG) emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; and (3) respond to the directives by the Governor in 2008 to develop a green building code.

BSC's proposed action will support the implementation of the Governor's Executive Orders B-48-2018 and N-79-20 to achieve a benchmark for having over 5 million zero-emission vehicles (ZEVs) on California roadways by 2030 and 100% sales of electric vehicles (EV) by 2035. In October 2013, Governor Brown announced an initiative to put 3.3 million zero-emission vehicles on the road within a dozen years. This initiative is a memorandum of understanding signed by the governors of California, Connecticut, Maryland, Massachusetts, New York, Oregon, Rhode Island, and Vermont. The initiative demonstrates the commitment to support a successful and growing market for EVs, an important strategy to help reduce emissions of criteria air pollutants and GHG, and to reduce dependence on petroleum-based fuels. BSC's proposed amendments to the 2020/2021 Triennial California Green Building Standards (CALGreen) Code will support the executive Orders and memorandum of understanding.

The proposed changes to the building standards with statewide application will lead to substantial environmental benefits through reduction in energy use, GHG emissions, criteria pollutants, and fossil fuel dependency leading to improved public health, and potentially result in significant cost savings (avoided costs) associated with future installation of EV charging stations at nonresidential buildings.

#### Objectives of the Proposed Amendments

The objectives of the proposed amendments are to further advance the potential for EV preparedness and provide clarity to the code user in consistent reference nomenclature to other parts of Title, 24.

#### ECONOMIC IMPACT STATEMENT

##### Items:

##### A. ESTIMATED PRIVATE SECTOR COST IMPACTS

##### 2. Estimate the economic impact of the proposed amendments:

Statewide cost estimates for the proposed amendments were calculated over an 8-year period between the proposed January 1, 2023 effective date and the end of 2030 for a 2030 target date for needed EV charging infrastructure in nonresidential buildings. Statewide costs over the 8-year life of the amendments were estimated to total \$333 million.

Pursuant to the definition in Section 2000 of Title 1, Division 3, Chapter 1 of the California Code of Regulations, a "major regulation means any proposed rulemaking...that will have an economic impact...exceeding fifty million dollars (\$50,000,000) in any 12-month period ...." Since the purpose of Section A2 is to identify whether or not the proposed rulemaking is considered a major regulation, the cost estimates specified in this section are estimated on an annual basis. Annual costs of the proposed amendments are approximately \$42 million. Based on this annual cost estimate, the category "between \$25 and \$50 million" was selected for the estimated economic impact.

##### 3. Describe the types of businesses (Include nonprofits):

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The types of businesses impacted by the EV charging infrastructure provisions are any businesses funding the development of applicable newly constructed buildings with off-street loading spaces, specifically manufacturing facilities of 10,000 sq. ft. or greater and office buildings of 60,000 sq. ft. or greater.

### Total Number of Businesses Impacted

Based on Construction Industry Research Board data on projections for new development in California, a total of around 5,500 applicable buildings are expected to be constructed between 2023 and 2030. Due to the nature of data available, estimates of the number of buildings rather than businesses were calculated, as data for future construction is reported by building type, square footage, and number of buildings rather than by business type.

### Total Number of Small Businesses Impacted

California Government Code defines small business as an entity that is independently owned and operated with 100 or fewer employees and an average gross receipt of \$15 million or less, over the last three tax years. BSC assumed it is unlikely for a business that meets these criteria to be able to afford to construct a new building over the course of the 8-year lifetime of the proposal. Analysis of economic data shows that most small businesses rent their buildings rather than own them, and even fewer construct new buildings when starting. It also shows that less than 6% of companies with a gross revenue under \$15 million have only one unique location, and it is assumed that a small business will typically have only one building/location. Due to the nature of data available, estimates of the number of buildings rather than businesses were calculated, as data for future construction is reported by building type, square footage, and number of buildings rather than by business type.

4. Enter the number of businesses that will be created/eliminated:

Some/None. Some special trade construction businesses may be created. No businesses are expected to be eliminated.

6. Enter the number of jobs created/eliminated:

Unknown/None. Some jobs may be created for the installation, maintenance and manufacturing of electric vehicle supply equipment (EVSE). No jobs are expected to be eliminated.

## **B. ESTIMATED COSTS**

5. Estimated Statewide Dollar Costs for Businesses and Individuals

The proposed amendments would require newly constructed manufacturing facilities of 10,000 sq. ft. or greater, and office buildings of 60,000 sq. ft. or greater, to install EV capable infrastructure to support later addition of charging stations with off-street loading spaces for charging medium- and heavy-duty EVs. The cost of this EV charging infrastructure (raceway and panel capacity) is estimated to be \$60,314 per building. This average includes costs of installing upgraded transformers and switchboards, the indirect costs, and installing conduit.

a) Costs to Small Business

The suggested code changes would require new applicable buildings to install the same equipment as buildings in larger businesses, and therefore the cost to businesses of any size would remain the same (average of \$60,314 per building).

b) Costs to Typical Business

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Typical businesses account for approximately 94 percent of affected businesses. The initial cost to typical businesses, then, is estimated to be \$60,314. This is a one-time cost with no annual ongoing costs.

- c) The proposed amendments are expected to add an average of 1 percent to total costs for nonresidential new construction. This small cost increase would have a negligible impact on individuals even if affected businesses are able to pass on the increased cost fully to the consumer. It will also prevent up to an average of \$586,000 per building in future retrofit costs.
  - d) Describe other economic costs that may occur: The proposal supports regulations that phase out the use of diesel-fueled medium- and heavy-duty vehicles, reducing diesel consumption and increasing the use of zero-emissions, technology.
2. If multiple industries are impacted, enter the share of total costs for each industry:  
100% of business constructing applicable new non-residential buildings.
  5. Explain the need for State regulation given the existence or absence of Federal regulations:
    - Currently there are no federal regulations for mandatory EV infrastructure installations. Assembly Bill 1092 (Ch. 410, Stats of 2013) directed BSC to develop mandatory EV standards for nonresidential buildings. In addition, these amendments support the implementation of the Governor's Executive Orders B-48-2018 and N-79-20 to achieve a benchmark for having over 5 million zero-emission vehicles (ZEVs) on California roadways by 2030 and 100% sales of EVs by 2035

#### C. ESTIMATED BENEFITS

1. Explain the estimated benefits to be derived from this proposal:
  - The benefits of these amendments include sustaining California's natural resources by reducing energy, greenhouse gas emissions, criteria pollutants, and dependency on fossil fuel. This change will help improve air quality and support the estimated emissions reductions from current CARB regulations which include: 19 million metric tons of carbon dioxide equivalent (MMTCO<sub>2</sub>e) total by 2050 from the Innovative Clean Transit Regulation, 0.5 MMTCO<sub>2</sub>e total by 2040 from the Airport Shuttle Bus Regulation, and 1.7 MMTCO<sub>2</sub>e per year by 2040 from the Advanced Clean Trucks Regulation. These estimated emissions reductions do not include those from the Advanced Clean Fleets Regulation currently under development. The proposed infrastructure additions could also be used to support zero-emission material handling equipment, and additional requirements to increase infrastructure for this equipment will be revisited in future code cycles.
2. Are the benefits the result of specific statutory requirements, or goals developed by the agency based on broad statutory authority?

The benefits are the result of the specific statutory requirements. AB 1092 directs BSC to develop EV standards and SB 1473 allows it to develop green building standards.
3. What are the total statewide benefits (avoided costs) from this regulation over its lifetime?

Recent analysis shows that EV capable infrastructure must support 180,000 medium- and heavy-duty zero-emission vehicles (ZEV) by 2030. CARB has adopted, and continues to adopt regulations requiring sales and purchases of medium- and heavy-duty ZEVs. The

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proposed mandate will increase medium- and heavy-duty ZEV access to EV chargers throughout their daily operations, which will ultimately be necessary to support the addition of 180,000 medium- and heavy-duty ZEVs by 2030, and to support the additional need from 100 percent sales of medium- and heavy-duty EVs by 2045. Under current codes the future cost to retrofit buildings in order to comply with CARB ZEV regulations is estimated to be roughly seven times the cost of the proposed code changes.

4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation:

The proposal is likely to promote the expansion of businesses currently involved in EV manufacturing, installation, maintenance, use and technology development.

### D. ALTERNATIVES TO THE REGULATION

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

BSC considered the following alternative in an effort to further advance the potential for EV preparedness.

#### **Alternative 1:**

BSC considered making no change to the current standard codes, instead retrofitting at a later date. This alternative was rejected as it could potentially cost up to four times the amount of the changes proposed, due to construction costs to retrofit. This requirement would have resulted in the need to retrofit buildings at a later date, incurring retrofit costs statewide of up to \$404M per year.

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

Benefits such as greater use of ZEVs to reduce criteria pollutants and fossil fuel dependency were not quantified. GHG reductions were not quantified.

## FISCAL IMPACT STATEMENT

### Items:

#### A. FISCAL EFFECT ON LOCAL GOVERNMENT

6. Other. Explain.

Currently, local government building departments are responsible for enforcing the California Green Building Standards Code, Title 24, Part 11. There should not be any major fiscal effect on local governments to enforce a medium- and heavy-duty ZEV infrastructure requirement. However, if there is a minor increase of costs to local governments to review and check plans for compliance, any increase in costs can be recovered from increases in permit fees.

Some local governments may incur additional costs when they construct new buildings. There is no data available on how many total new buildings will be constructed by local governments on an annual basis. However, most local government buildings are not office buildings of greater than 60,000 square feet with off-street loading docks, not manufacturing facilities of greater than 10,000 square feet, and would not be subject to proposed requirements.

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#### B. FISCAL EFFECT ON STATE GOVERNMENT

4. Other. Explain.

All new state buildings are subject to these requirements. BSC has not specifically identified the number new state buildings being planned for new construction during the effective date of the new proposals. However newly constructed manufacturing facilities of 10,000 sq. ft. or greater, and office buildings of 60,000 sq. ft. or greater would require the installation of EV capable infrastructure to support later addition of charging stations with off-street loading spaces for charging medium- and heavy-duty EVs. The cost of this EV charging infrastructure (raceway and panel capacity) is estimated to be \$60,314 per building. This average includes costs of installing upgraded transformers and switchboards, the indirect costs, and installing conduit.