

# Economic and Fiscal Impact Statement (Form 399)

## Attachment B - Bird-Friendly regulations 45day

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

#### BACKGROUND

The California Building Standards Commission (BSC) proposes to adopt the proposed amendments that address “bird-friendly” building design standards for planning and design of buildings. The intent of these voluntary standards is to reduce the number of bird deaths caused by collisions with buildings. BSC is proposing concepts and alternative materials to vision glazing and other building features for designers and developers to use when designing buildings to reduce bird collision.

This proposed action by BSC adopts voluntary green building standards for occupancies within its authority. The intent of the code:

1. Provide “bird-friendly” building design standards that reduce bird deaths cause by collisions with buildings.
2. Provide voluntary regulations that can be adopted by local jurisdictions.

BSC’s proposed action will aide in supporting the Governor Newsom’s N-82-20 Executive Order pledged to preserve 30% of habitat by 2030 (the 30 x 30 pledge) (which the Biden Administration has since also declared) with the intent of stemming declines in biodiversity. Agencies were tasked with coordinating efforts to ensure that biodiversity is considered in fulfilling their mandates. Biodiversity includes birds.

The proposed changes to the building standards with statewide application will lead to substantial environmental benefits through reduction in the mortality of birds. BSC has made the initial determination that the action will not have a significant adverse economic impact on business as the cost of compliance is negligible at less than 1% of the total building cost.

#### Objectives of the Proposed Amendments

The objectives of the proposed amendments are to provide clarity to the code user.

#### ECONOMIC IMPACT STATEMENT

##### Items:

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

3. Enter the total number of businesses impacted:

Unknown

Describe the types of businesses (including nonprofits):

- Nonresidential Building Industry (window manufacturers, contractors, architects, engineers)
- New nonresidential construction projects and existing nonresidential construction projects with remove/replace more than 50% windows

Enter the number or percentage of total businesses impacted that are small businesses:

Unknown

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

Unknown/None. New businesses in the window manufacturing, window designs may be created by these regulations.

6. Enter the number of jobs created and eliminated:

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Unknown and None.

Describe the types of jobs or occupations impacted: construction jobs, window manufacturers, window designers, the different strategies: parachute cord makers, tempura paint dealers, screens and netting maker/installers, tape, decal and film manufacturers.

### 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:

- Existing Buildings Replacement Glass. James Cubie, Policy and Outreach Consultant, also joins Dr. Klem at the Ornithology Center at Muhlenberg College indicates the glass is 30% the cost of the installed window, if bird safe glass cost 25% more than ordinary glass, it only adds 7.5% to the cost of the replacement window or \$30 to the cost of a \$400 replacement window.
- Applying a product to the outer surface of the glass is most effective. Applying a product to inner surfaces can be effective if the outer surface is not so reflective that the pattern beneath is invisible to birds; this is only recommended where external treatment is not possible. Below are cost estimates for some of the treatment strategies listed in the express terms to minimize the risk of birds colliding with buildings.
- U.S. Fish and Wildlife Service provides cost estimates:
  - i. Parachute Cord-cost: 11 cents/sq ft
  - ii. Tempura Paint-cost: 13 cents/sq ft
  - iii. Screens and Netting-cost: varied based on material approximately 1.83/sq ft
  - iv. Tape and Decals-cost: tape is \$2.50/sq ft, dot patterns are \$8/sq ft
  - v. External Films and Coverings-cost: \$4-6/sq ft; double that to include labor
- Material alternatives to vision glass for the treatment of building areas posing the greatest risk for collision do not need to be prohibitively expensive and can be cost-neutral. Portland, Oregon, in its bird-friendly guidelines, notes that vision glass is the least energy efficient of façade materials, attributing an operating cost to it that is higher than that of patterned glass. An earlier version of H.R. 919 for bird safe design for federal buildings was opined by a Congressional Budget Office to be cost-neutral. Portland cites cost studies of a local library and a health center, comparing traditional glass to fritted or UV-patterned glass and found increases of .05% and .03%, respectively, in the overall building costs, of which under 10% were expended on building skin. Independently, a California cost estimator for a large construction firm, consulting manuals used in practice, found that specialty glass costs about twice as much as traditional glass, but alternate materials are comparable or less in cost. Many designers of bird-friendly buildings note that costs are not significant if the features are incorporated early in design; retrofitting elements to shield glass will add cost, but economical options can be found. Many designers of bird-friendly buildings note that costs are not significant if the features are incorporated early in design; retrofitting elements to shield glass will add cost, but economical options can be found.
- BSC has made the initial determination that the action will not have a significant adverse economic impact on business as the cost of compliance is negligible at less than 1% of the total building cost.
- Annual ongoing cost is unknown.

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- The Federal Bird Safe Buildings Act of 2011 (HR 1643) proposes that all federal buildings constructed, acquired, or altered by the General Services Administration should incorporate bird safe materials and design features where practicable. A Congressional Budget Office analysis deemed the bill to be cost-neutral. In fact, many designers who have designed bird-friendly buildings have asserted that they do not see a significant increase in cost if these design approaches come into consideration from the start. From: Resource Guide for Bird-friendly Building Design, Portland, Oregon. Bill died in congress.
  - d. Describe other economic costs that may occur: Cost percentage from 0 to 1% to create bird-friendly building design windows for new buildings of the total construction costs. Existing buildings the cost can be up to 7.5% for replacement windows with bird-friendly building design.
2. If multiple industries are impacted, enter the share of total costs for each industry:  
Unknown
5. Are there comparable Federal regulations?  
NO. Explain the need for State regulation given the existence or absence of Federal regulations: Including CALGreen voluntary regulations for bird-friendly design will provide standards regulations local jurisdictions can adopt as mandatory for their jurisdiction.

### C. ESTIMATED BENEFITS

1. Explain the estimated benefits to be derived from this proposal:
- The benefits of these amendments would be saving the lives of birds. According to a study by Cornell's Laboratory of Ornithology which cites work by the American Bird Conservancy shows upwards of 1 billion bird deaths by collision in the United States. According to Dr. Daniel Klem who has documented evidence that UV patterning following the 2 x 4 or 2 x 2 Rule on Surface 1 does work (deters a bird strike by about 70%). A 75% reduction of mortality at a structure that kills 400 birds a year means that structure will still kill 100 birds a year. Because window kills affect reproductively active adult birds, the cumulative effect of saving some birds is amplified by their reproductive output. Because a 100% reduction in mortality may be difficult to achieve.
  - Birds migrating along the Pacific Flyway or remaining in one area to feed and nest have intrinsic value as part of our natural environment. They also serve humans by controlling insect pests, pollinating plants, and crops, spreading seed and acting as nature's garbage service.  
With many species already in decline due to building sprawl and loss of habitat, the direct kills of often-healthy birds from collisions with building glass exacerbates their tenuous existence. To paraphrase the Portland resource guide, consistent bird-friendly building design policy is necessary for "comprehensive urban sustainability strategy" to which a green building code is a major contributor. These bird-friendly standards aim to enhance the contribution to the California Green Building Standards Code.
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 goals developed by the agency based on broad statutory authority. This proposal is in response to a petition BSC received and BSC is exercising its CALGreen authority for nonresidential occupancies.
3. What are the total statewide benefits from this regulation over its lifetime?

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Fewer bird strikes.

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

Window manufacturers could see an expansion in the need to acid etch, frit windows before installation; developers of parachute cords may see an uptick in business; tempera paint, screens, netting, tape, decals and external film processes may increase.

### D. ALTERNATIVES TO THE REGULATION

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

No alternatives to these regulations were considered. These voluntary regulations allow variety of applications to the glazing. Many local jurisdictions throughout California and other states have similar regulations/guidelines.

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

N/A

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

Stakeholders have provided estimated cost impacts for voluntary nonresidential construction installation and various strategies to create bird-friendly building designed windows.

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 action or procedures. Were performance standards considered to lower compliance costs?

NO. Explain: The installation of bird-friendly building design windows and the different strategies to create bird-friendly designs require prescriptive standards. National Glass Association released: A task group comprised of member volunteers within the Fabricating Committee believes the Best Practices for Bird-Friendly Glazing Design Guide, are a prescriptive approach to implementing bird-friendly glazing constructions that reflect the current developments and guidance available within both the glazing and bird conservancy industries.

## FISCAL IMPACT STATEMENT

### A. FISCAL EFFECT ON LOCAL GOVERNMENT

5. No fiscal impact exists. The regulation does not affect any local entity or program.

### B. FISCAL EFFECT ON STATE GOVERNMENT

4. Other. Explain

These regulations will have an unknown fiscal impact on the costs to construction state buildings in fiscal year 2022-23. See "B" above estimated costs.

### C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS

3. No fiscal impacts exists. This regulation does not affect any federally funded State agency or program.

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### REFERENCES

*Resource Guide for Bird Friendly Building Design*, 1<sup>st</sup> Edition, 2012, Portland, Oregon,  
<https://www.portlandoregon.gov/bps/article/446308>

Volunteer research not peer reviewed, 2018-2019

Portland, Oregon, op. cit.

Sheppard and Phillips, op. cit.

Portland, OR, op.cit., Executive Summary