

Date of Hearing: May 4, 2022

ASSEMBLY COMMITTEE ON APPROPRIATIONS

Chris Holden, Chair

AB 2382 (Lee) – As Amended April 20, 2022

Policy Committee: Business and Professions Vote: 19 - 0

Urgency: No State Mandated Local Program: No Reimbursable: No

**SUMMARY:**

This bill requires a state agency to ensure, between the hours of 11 p.m. and sunrise, an outdoor lighting fixture installed on a state building is either shielded, extinguished by an automatic or manual shutoff device or is motion activated for less than 15 minutes and has an automatic shutoff device. This requirement applies to a light fixture installed or replaced on or after January 1, 2023, on a building or structure that is owned, leased or managed by a state agency.

This bill exempts certain lighting from the above requirements, including, but not limited to, lighting fixtures on highway advertisement signs, navigational lighting systems at airports, lighting fixtures necessary for worker safety and emergency lighting used by police, firefighters, correctional personnel or medical personnel.

This bill also requires the Department of General Services (DGS) to develop publically available education materials that encourage the reduction of light pollution and include examples of compliant fixtures.

**FISCAL EFFECT:**

- 1) General Fund (GF) costs of an unknown amount, but likely significant, to replace outdoor lighting fixtures on over 24,000 state-owned buildings. For illustration, if DGS spent an additional \$100 per building to replace existing outdoor lighting fixtures with compliant fixtures on half of the buildings (12,000), the total cost would be \$1.2 million. If this occurred over five years, the cost would be \$240,000 per year. Actual costs would be job specific and depend on the type of fixture to be installed, as well as the actual number of fixtures replaced. This estimate does not include costs to replace fixtures on buildings leased or managed by the state.
- 2) General Fund costs of an unknown amount to include compliant fixtures on newly constructed buildings. New construction is covered by the Cal Green code's backlight, upright and glare regulations. This bill would apply more strict requirements in some instances. Building plans would need to be updated to include compliant fixtures, and the costs of those fixtures would be included in the overall costs of construction.
- 3) Estimated one-time costs to DGS of an unknown amount, but likely in the low hundreds of thousands of dollars (GF), to contract with a lighting systems consultant to develop educational materials, including examples of compliant fixtures. DGS indicates the CALGreen standards are based in large part on regulations adopted by the California Energy

Commission. DGS has no in-house expertise on light pollution reduction, including what fixtures may conform with this bill's requirements.

- 4) GF costs of an unknown amount to DGS to make the required educational materials available to the public. This could include costs for development and distribution of a physical guide and development of a webpage to be hosted on DGS' website.

#### COMMENTS:

- 1) **Purpose.** According to the author:

Increased light pollution throughout California and globally is disrupting the circadian rhythms and migratory patterns of animals, which is harming our ecosystems. According to the National Audubon Society, 80% of birds that migrate do so at night using the dark skies to help them navigate to and from their breeding grounds. [This bill] will require all outdoor lighting fixtures on state buildings and structures to have an external shield to direct light to where it is needed or be equipped with a shutoff device. This sensible reform promotes safety for migratory birds, ecosystems, and people.

- 2) **Background.** Light pollution, also known as artificial light at night (ALAN), is caused by increasingly large urban areas and the excessive and inefficient use of lights. Light pollution is characterized by sky glow, light trespass (lights shining in unneeded or unwanted areas) and glare.

Light pollution has been found to have adverse effects on human health and wildlife. Specifically, studies show ALAN can directly impact human health by interfering with natural circadian rhythms caused by a decrease in the amount of melatonin produced in the body. Sleep disorders, depression, cancer and other adverse health conditions have been linked to circadian disruption. Similarly, studies have demonstrated that excessive ALAN can alter the behavior of wildlife, often resulting in the death or decline of species such as turtles, birds, fish, reptiles and other wildlife.

According to the National Conference of State Legislatures (NCSL), 19 states, Washington D.C. and Puerto Rico have laws in place to reduce ALAN.

- 3) **California Green Building Standards Code (CALGreen).** In 2007, the California Building Standards Commission (CBSC) developed green building standards to help the state achieve its greenhouse gas reduction goals. CBSC is authorized to propose CALGreen standards for non-residential structures and any others not under the jurisdiction of another state agency.

CALGreen contains specific light pollution reduction standards for non-residential buildings. Outdoor lighting systems must be designed and installed to prevent light escaping in unwanted or unnecessary directions from an outdoor light fixture. CALGreen specifies if a local ordinance is more stringent than the CALGreen requirements, the building owner must comply with the local ordinance.

This bill requires state buildings to have light fixtures designed to reduce ALAN between the hours of 11 p.m. and sunrise.

**Analysis Prepared by:** Jennifer Swenson / APPR. / (916) 319-2081