

11 March 2020

**SB 299 Energy-Conserving Standards (Maryland Sustainable Buildings Act of 2020)**  
**The Maryland Senate**  
**Education, Health, and Environmental Affairs**  
**Position: Support**

To Whom It May Concern:

I am writing in support of SB 299, The Department of General Services – Energy-Conserving Standards.

There are many reasons to support the bill, including protecting the ecosystem and protecting the economic resource of bird watching. However, as a LEED-BD&C certified architect I would most like to address the impact the bill would have on buildings.

The ubiquitous “glass box” building is an inefficient building. Unshaded, unprotected glass has a terrible R-value (around R-5, compared to the R-20 for walls), gets excessive solar heat gain in summer, excessive heat loss in winter, and provides a harsh and glary indoor and outdoor environment,

Fortunately, there are a number of architectural elements that can improve the performance of buildings with glass facades, in terms of energy use and occupant comfort. These include light shelves, secondary skins, tensile fabrics, and high-tech fritted glass, among others. While these elements can add to the up-front cost of a building, it is minimal and if done right they will pay for themselves within a short time in energy savings and occupant comfort (fewer sick days, etc...).

The good news is that all of these strategies for improving the performance of the building will also increase the bird safety of the building. Thus a building that is truly high-performance will, in a sense, get bird safety for free. Looked at from the other side, requiring a bird-safe building will typically result in a building that performs better on energy usage and occupant comfort.

Some examples: The NYT tower in New York is a glass skyscraper, however it is wrapped in a steel framework that holds ceramic rods about 2’ out from the glass. The rods are spaced to control daylight, solar heat gain, views, and provide a distinctive look to the “grey lady”. They also prevent bird strikes.

The new American Embassy in London is a large glass cube. But on 3 sides of the cube is a grid of three dimensional fabric that controls the daylight, tempers the solar heat gain, and – a bonus – prevents bird strikes.

Another example that I use often in my own work is the incorporation of light shelves on the exterior of the building. These horizontal shelves provide direct shade to the glass below the shelf, while bouncing light off the top of the shelf through the glass above it. The light then bounces off the interior ceiling, and provides daylight 50% further into the floor plate of the building than if there was no light shelf. Light shelves on a building façade increase the costs, but they reduce solar heat gain, reduce the need for artificial lighting, reduce glare, and provide natural light to much more of the building interior. All of these things, and the greater occupant comfort they result in, save money. And they prevent bird strikes.

In the U.S., about 10-40% of a commercial building’s lifetime cost is construction. About 60-90% of the lifetime cost is in the operation, largely energy usage. Any design elements that enhance the energy performance of a building will likely pay for themselves many times over during the life of a building. SB 299 will result in many fewer bird deaths, which will benefit us all in numerous ways. It will also result in better, more sustainable buildings, which will improve the occupant’s lives, protect our environment, and save money.

Sincerely,  
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