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# California Legislature

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### **Green Building Standards: A Progress Report and Discussion of Issues Related to the Recent Adoption of the 2010 CALGreen Code**

February 23, 2010  
1:30 pm  
State Capitol, Room 112

### **Background Paper**

#### *INTRODUCTION*

In the last three years, the Legislature has shown an especially strong interest in the subject of green building standards, evidenced by an unprecedented number of bills on the subject (see appendix A). For the most part, however, the adoption of green building standards has been handled administratively through the existing building standards process overseen by the Building Standards Commission (BSC), culminating on January 12, 2010 with the BSC's adoption of the 2010 California Green Building Standards Code, also known as the CALGreen Code.

Given the Legislature's high level of interest in the subject, the purpose of this hearing is to update members of the committee on the substance of the 2010 CALGreen Code and to hear from interested parties about the new code, outstanding issues, and ideas for next steps.

#### *BUILDING STANDARDS AND THE ADOPTION PROCESS*

Building standards regulate the method of use, properties, performance, or types of materials used in the construction, alteration, improvement, repair, or rehabilitation of a building or other improvement to real property. Building standards affect new construction and are not applied retroactively to existing structures.

The California Building Standards Law establishes the BSC and the process for adopting building standards in the California Building Code. Under this process, relevant state agencies propose amendments to model building codes, which the BSC must then adopt, modify, or reject.



For example, the Department of Housing and Community Development (HCD) is the relevant state agency that proposes residential building standards. The Office of Statewide Health Planning and Development is responsible for hospitals and clinics, and the Division of the State Architect is the relevant agency for schools and emergency service buildings. Not all buildings fall under the jurisdiction of a relevant state agency. Most commercial, industrial, and manufacturing structures are considered “local buildings,” over which local governments may determine applicable building standards. However, SB 1473, (Calderon), Chapter 719, Statutes of 2008, recently gave the BSC the authority to adopt green building standards for such local buildings.

The BSC adopts the California Building Code every three years. In the interim, the BSC adopts annual updates to make necessary mid-term corrections. Building standards apply statewide. A local jurisdiction, however, may amend state a building standard if it makes a finding that the amendment is reasonably necessary because of local climatic, geological, or topographical conditions and files the amendment and findings with the BSC.

### *GREEN BUILDING STANDARDS*

In essence, green buildings standards are indistinguishable from any other building standards. Both are contained in the California Building Code and regulate the construction of new buildings and improvements. The only practical distinction between the two is that whereas the focus of traditional building standards has been protecting public health and safety, the focus of green building standards is to improve environmental performance.

AB 32 (Nuñez and Pavley), Chapter 388, Statutes of 2006, which mandates the reduction in greenhouse gas emissions in California to 1990 levels by 2020, increased the urgency around the adoption of green building standards. In its scoping plan for the implementation of AB 32, the Air Resources Board (ARB) states that energy use and related activities by buildings are the second largest contributor to California’s greenhouse gas emissions, constituting roughly 25 percent of all such emissions. The scoping plan further states:

A Green Building strategy will produce greenhouse gas saving through buildings that exceed minimum energy efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Combined these measures can also contribute to healthy indoor air quality, protect human health and minimize impacts to the environment.

In recommending a green building strategy as one element of the scoping plan, the ARB believes that green building standards (in this case including measures that may be applied to existing structures) may produce greenhouse gas savings of approximately 26 million metric tons of CO<sub>2</sub> equivalent (MMTCO<sub>2</sub>E) by 2020.

### *2008 GREEN BUILDING CODE*

In July 2008, the BSC adopted the first set of green building standards for California. HCD, the Division of the State Architect, the Office of Statewide Health Planning and Development, and



the BSC itself developed these standards. Many of the standards, especially with respect to non-residential construction, were voluntary, meaning that builders were encouraged but not required to follow them. Those standards that BSC made mandatory generally reflected existing mandates. At that time in 2008, BSC stated that this first set of standards would be followed in 2010 with a second set that includes a greater number of mandated green building features.

### *2010 GREEN BUILDING CODE*

On January 12, 2010, the BSC adopted the 2010 California Green Building Standards Code, also known as the CALGreen Code. The most significant features of the 2010 CALGreen Code include:

- 20 percent mandatory reduction in indoor water use, with voluntary goal standards for 30, 35 and 40 percent reductions;
- Separate indoor and outdoor water meters to measure nonresidential buildings' indoor and outdoor water use with a requirement for moisture-sensing irrigation systems for larger landscape projects;
- Diversion of 50 percent of construction waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80 percent for commercial projects;
- Mandatory periodic inspections of energy systems (*i.e.*, heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies;
- Mandatory use of low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particle board.

In addition to the new statewide mandates, CALGreen encourages local governments to adopt more stringent voluntary provisions, known as Tier 1 and Tier 2 provisions, to further reduce greenhouse gas emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. As with the statewide mandatory provisions, a local building department would inspect or delegate the inspection of construction to ensure that the tier mandates have been met before issuing a certificate of occupancy.

The 2010 CALGreen Code takes effect on January 1, 2011, allowing time for practitioners in the development field to familiarize themselves with the new provisions.

In addition to the ability to adopt Tier 1 and Tier 2 requirements, the code reiterates the ability of local governments to amend CALGreen standards based on local climatic, geological, or topographical conditions and clarifies that such conditions include local environmental conditions as established by a city or county. This is intended to clarify that a city or county may establish local green building standards that are more restrictive than the CALGreen Code.

## *PRIVATE GREEN BUILDING RATING PROGRAMS*

In addition to state green building standards, a number of private entities have established green building rating programs under which a builder can design a building to meet different levels of environmental performance, obtain third-party verification, and then market the building with the attained green rating. The United States Green Building Council, one of these private entities, has developed one of the most recognized ratings systems for both commercial and residential construction, known as the Leadership in Energy and Environmental Design (LEED) rating. Under LEED, a building may meet increasing levels of environmental performance, signified by a silver, gold, or platinum rating. Another well-known rating program for residential construction is Build It Green's GreenPoint Rating System.

These private rating systems are designed to exceed mandatory building standards and to encourage builders to adopt green building practices by providing a certified and recognized marketing advantage.

## APPENDIX A

### RECENT LEGISLATION RELATED TO GREEN BUILDING

#### *2009 Legislation*

**SB 283**      **DeSaulnier**      **Building standards for recycled water systems**

This bill extends until December 31, 2009 the requirement for the Department of Water Resources (DWR) to propose building standards for recycled water systems and deletes the condition that DWR receive an appropriation for that purpose. *Signed into law. Chapter 178, Statutes of 2009.*

**SB 407**      **Padilla**      **Replacement of high-water-using plumbing fixtures**

This bill requires the owner of a commercial or residential property built prior to 1994 to replace all non-water conserving plumbing fixtures with water-conserving fixtures by either 2017 or 2019, depending on the type of property. *Signed into law. Chapter 587, Statutes of 2009.*

**AB 210**      **Hayashi**      **Green building standards**

This bill clarifies that cities and counties may amend state green building standards if they make a finding that the amendments are reasonably necessary because of local climatic, geological, or topographical conditions. *Signed into law. Chapter 89, Statutes of 2009.*

**AB 212**      **Saldana**      **Zero net energy buildings**

This bill requires the Energy Commission to adopt building standards that require new residential construction commenced on or after January 1, 2020, or on a date by which the commission determines that the use of photovoltaic technology is cost effective, whichever is later, to use zero net energy. *Held in Assembly Appropriations Committee.*

**AB 828**      **Lieu**      **Green building standards**

This bill would have required the Buildings Standards Commission to seek and respond to input from specified state agencies when developing green building standards and explicitly authorized the California Energy Commission to adopt voluntary green building standards. *Vetoed.*

#### *2008 Legislation*

**SB 1258**      **Lowenthal**      **Graywater standards**

This bill requires the Department of Housing and Community Development to submit to the California Building Standards Commission building standards for the construction, installation, and alteration of graywater systems for indoor and outdoor use. *Signed into law. Chapter 172, Statutes of 2008.*



**SB 1278**      **Maldonado**      **Green Neighborhood Grant Program**

This bill would have established the Green Neighborhood Grant Program to reimburse private developers for up to 1.5 percent of the development cost associated with meeting the requirements of the California Green Builder Program. *Held in Senate Energy, Utilities, and Communications Committee.*

**SB 1473**      **Calderon**      **Green building standards**

This bill 1) requires the Building Standards Commission to adopt green building standards for those occupancies over which no state agency has authority; 2) requires every city and county to collect a fee of \$4 per \$100,000 in valuation on each building permit for the purpose of funding the development of building standards with emphasis on the development of and educational efforts associated with green building standards; and 3) requires state agencies to continue using the national model building codes that were used in 2007 as the basis for future editions. *Signed into law. Chapter 719, Statutes of 2008.*

**AB 1065**      **Lieber**      **Energy efficiency standards for new construction**

This bill would have set a goal for the California Energy Commission to require zero net energy new residential buildings by 2020 and zero net energy new nonresidential building by 2030. *Held in Senate Appropriations Committee.*

**AB 2013**      **Krekorian**      **Water-permeable pavement**

This bill would have required the Department of Housing and Community Development to propose building standards for the use of water-permeable pavement for exterior surfaces in residential construction. *Held in Senate Appropriations Committee.*

**AB 2030**      **Lieu**      **Zero net energy mandate for non-residential construction**

This bill would have required the California Energy Commission to adopt standards that require new nonresidential construction begun after January 1, 2030 to be "zero net energy" buildings. *Held in Assembly Appropriations Committee.*

**AB 2112**      **Saldaña**      **Energy efficiency standards for new residential construction**

This bill would have required the California Energy Commission (CEC) to require that new residential construction commenced on or after January 1, 2020, or on a date when the CEC determines that the use of photovoltaic technology is cost effective, whichever is later, use zero net-energy. *Held in Senate Transportation and Housing Committee.*

**AB 2678**      **Núñez**      **Energy efficiency**

This bill would have required the Energy Commission to develop a comprehensive program to achieve greater energy savings in existing residential and commercial buildings, including energy audits, energy efficiency improvements, and financing options. *Held in Senate Appropriations Committee.*

**AB 2939**      **Hancock**      **Green building standards: local authority**

This bill would have authorized a city or county to impose more restrictive building standards than the California Green Building Standards Code upon a finding that the standards are

reasonably necessary to mitigate or address environmental conditions and will not unreasonably impact housing affordability. *Vetoed by the Governor.*

### *2007 Legislation*

**AB 35**      **Ruskin**      **Sustainable Building Standards: State Buildings**

This bill requires the California Environmental Protection Agency to adopt regulations establishing sustainable building standards for the construction and renovation of state buildings. *Vetoed by the Governor.*

**AB 715**      **Laird**      **Low-Flush Toilets and Waterless Urinals**

This bill phases in lower flush volume requirements for water closets and urinals and establishes standards for the use of waterless urinals. *Signed into law. Chapter 499, Statutes of 2007.*

**AB 888**      **Lieu**      **Sustainable Building Standards: Commercial Buildings**

This bill requires new commercial buildings of 50,000 square feet or more to be designed, constructed, and operated to meet the U.S. Green Building Council's LEED gold rating or its equivalent, unless the state adopts specified minimum green building, in which case those commercial buildings will be required to meet the adopted standards. *Vetoed by the Governor.*

**AB 1058**      **Laird**      **Sustainable Building Standards: Residential Buildings**

This bill requires the Department of Housing and Community Development to develop green building standards for residential occupancies and submit them to the California Building Standards Commission for review, adoption, approval, and publication by July 1, 2010. *Vetoed by the Governor.*

**AB 1065**      **Lieber**      **Energy Consumption Standards**

This bill requires the California Energy Commission to enhance standards to reduce the consumption of energy from offsite sources in new homes and non-residential buildings. *Held in Assembly Appropriations Committee.*

**AB 1173**      **Keene**      **Multifamily Water Meters**

This bill requires the installation of water meters in each new multifamily rental unit built after January 1, 2010, and establishes a process by which apartment owners charge renters for the water consumed in each unit. *Held in Assembly Appropriations Committee.*

**AB 1406**      **Huffman**      **Condominiums: Recycled Water**

This bill adds condominiums to the list of structures where use of potable water for toilets is deemed unreasonable if recycled water is available. *Signed into law. Chapter 537, Statutes of 2007.*