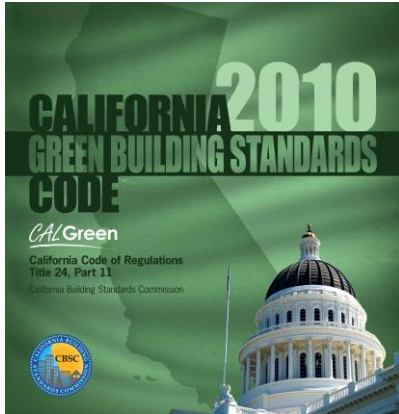


State of California Green Building Standards Code – CALGreen

State of California, U.S.A.



Population: 38 million
Land Area: 423,970 km² (163,696 mi²)
Density: 95 persons/km² (246 persons/mi²)
Median Age: 45.6 (2012)
Average persons per household: 2.9
**2012 State of California disposal rate:
710 kg per capita (all sources)¹**

Program Highlights / Summary

During the 2007-2008 legislative session, the Governor of California directed state agencies to develop green building standards for residential, commercial and public building construction. State agencies with authority to develop building codes worked together with industry stakeholders to develop the first-in-the-nation statewide green building standards. The California Green Building Standards Code, referred to as CALGreen, went into effect January 1, 2011.

CALGreen requires the recycling and/or salvaging of a minimum of 50% of the nonhazardous CR&D waste generated by a project, or that the project comply with a local CR&D waste management ordinance, whichever is more stringent. For all CalGreen projects, proof of proper diversion of CR&D materials is required prior to issuance of an occupancy permit. Implementation and enforcement of CALGreen's measures is done at the local government level.

As of January 1, 2014, the majority of construction projects and virtually all demolition activity are subject to CALGreen. The only projects exempted are non-residential alterations under \$200,000 in value, non-residential additions under 1,000 ft², and residential alteration / addition activities that do not increase the building's area, volume, or size. However, such projects may be subject to local CR&D ordinances.

¹ According to figures compiled by the Department of Resources Recycling and Recovery (CalRecycle), California's disposal rate was 4.3 pounds per person per day in 2012. Last year, 29.3 million tons were disposed statewide, and the population was 37.7 million, resulting in the 4.3 pounds (1.9 kg) per person per day disposal rate (710 kg/person/year).

Program Details

Section 4.408 of CALGreen requires the recycling and/or salvaging of a minimum of 50% of the nonhazardous construction and demolition project waste or that the developer meet a local CR&D waste management ordinance, whichever is more stringent. For all CalGreen projects, proof of proper recycling/reuse of C&D materials is required prior to issuance of an occupancy permit.

CALGreen also includes a provision for 100% of land clearing waste (trees, stumps, rocks, associated vegetation and soils) to be reused or recycled.

Submission of a waste management plan prior to project commencement and proof of compliance are mandatory requirements of CALGreen. The construction waste management plan needs to:

- Identify the materials to be diverted from disposal by recycling or reuse on the project site, or salvaged for future use or sale.
- Specify if materials will be sorted on-site or mixed for transportation to a diversion facility.
- Identify the diversion facility where the material collected will be taken.
- Identify construction methods employed to reduce the amount of waste generated.
- Specify that the amount of materials diverted shall be calculated by weight or volume, but not by both.

To track compliance, one of the following methodologies must be used:

- Utilize a waste management company that can document 50% diversion (or higher, if required by local municipality);
- Verify that the total combined weight of CR&D waste sent to landfill disposal does not exceed 4 lbs/ft² of building area²; or
- Track the weight *or* volume of all waste generated by the project by retaining receipts from disposal and recovery facilities, and inputting all of the information into CALGreen's Construction Waste Management Worksheets.

Submission of a waste management plan and proof of compliance with the plan are undertaken by an "enforcing agency", which is generally a municipal government. This approach takes advantage of the existing relationship between enforcing agencies and builders. The municipal government may have additional or more stringent diversion requirements, if they so choose.

CALGreen provides sample worksheets, compliance forms and other supporting documents to assist

² CALGreen estimates that the average home in California generates 8.5 lbs/ ft² during construction



municipalities with implementing CALGreen's requirements (<http://hcd.ca.gov/CALGreen.html>).

Program Results

Financial Data

The costs to administer CALGreen requirements at the local government level and how those costs are recovered vary depending on the municipality. In many jurisdictions, costs are embedded in the permit fees.

Environmental

Reduction and Diversion

Data to show the reduction and diversion performance of CALGreen is not yet available.

Disposal Impact / Landfill Space Savings

Unknown, as the local governments can have more stringent requirements than CALGreen. CALGreen estimates that the average house construction generates 8.5 lbs (3.9 kg) per ft². Assuming 50% of the waste is diverted (based on CALGreen's minimum), a 2000 ft² new home construction project would dispose of 8,500 lbs (3,900 kg).

GHG Reduction

Not calculated.

Social

Political Acceptability

Development of California Green Building Standards was originally approached from a legislative or statutory angle. Several bills were introduced during the 2007-2008 legislative session and ultimately vetoed. It was subsequently determined that building standards should not be statutory and instead the California Building Standards Commission (BSC) was created to undertake a transparent adoption process and to allow experts to develop the building standards. The BSC collaborated with many stakeholder groups and state agencies to introduce the 2008 California Green Building Standards Code. This was expanded and enhanced in 2010 and most recently 2013 to create what is now considered the CALGreen building code.

Lessons Learned

- The successful adoption of CALGreen is based, in part, on an expansive dialogue with all stakeholders in advance of drafting the policy.
- The CALGreen policy allows for a consistent state-wide approach that establishes a baseline diversion standard (50%) that can be used directly by municipalities or enhanced.
- To be effective and not require the establishment of another level of bureaucracy, CALGreen is implemented "on the ground" by local governments.
- The initial green building code was released as "voluntary standards" to provide a framework and first step toward establishing mandatory standards.
- Due to the evolution of materials, technologies and designs, the CALGreen policy will need to evolve in order to maintain its proactiveness.

Communities with Similar Programs

- First state-wide Green Building Code in the U.S.A.
- Communities which have successfully implemented the code include San José (see Case Study 8).

Program Contacts

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