

**Suggested Improvements to HCD's
California Green Building Standards Code, 7/23/2009 revision**

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The current revision of the CA Green Building Code does an excellent job of incremental improvement for green building—thank you.

This revision is also an excellent opportunity to start to address some of the more fundamental obstacles to truly green buildings in current codes:

1. Narrow focus on occupant safety to the exclusion of off site and future risks, which increasingly dominate the total risk profile.
2. Limited regulatory openings for Research and Development on the most state of the art systems, especially simple systems
3. Compliance evaluation of building systems on a piece by piece, rather than whole systems basis

Here are specific, suggested changes towards including these considerations in the code, followed by a few more detail level suggestions.

1. To 101.2 Purpose

After item 5, add:

6. Total life cycle impacts

7. Quality of Life

Reason:

The true value of many green building practices can only be apprehended when all life cycle impacts are taken into account. Though this is beyond the traditional scope of building official's concern, impacts outside this traditional scope are the primary motivation to develop this code.

The ultimate purpose of green building is to maintain/ improve quality of life, whether directly through features like daylighting and passive heating/ cooling, or indirectly through off-site/ future impacts.

2. To 101.8 Alternate materials, designs, and methods of construction

After “...protection of life and health.” Insert: This finding may be based on the total life-cycle impacts, including off-site and future impacts of the proposed alternate itself, or the proposed alternate’s contribution to the overall performance of the building.

Reason: Alternate materials and methods is the principle avenue by which environmentally superior building technologies initially enter into use. Off-site and future impacts increasingly dominate the risks to health and welfare caused by the built environment.

With the option (not the obligation) to consider the full spectrum of impacts in their finding of equivalent health and safety, the rate of entry of technologies that address these increasingly important risks will be increased.

3. New section, after 101.8:

101.9 Innovative Concepts

Development and refinement of new technologies that can better realize the purpose of this code under 101.2 is encouraged. The need for more compliance options that allow experience to be gained on a limited scale before adoption in the main body of the code is recognized.

To facilitate innovation, enforcing agencies are allowed to adopt alternate compliance standards such as: Experimental Permits, Experimental/ Education zones, zoning or sites, Alternative Owner Builder (AOB) codes, Low Impact Performance codes, or Conservation Preserves in which a property owner voluntarily restricts the nature and impacts of buildings, provided:

a) the standards provide for safety and health as required under alternate materials and methods

b) the number of square feet of structure permitted under the alternate compliance standards does not exceed 10% of the total square feet permitted by the enforcing agency

Reason: In order to effectively address off-site and future impacts caused by the built environment, an increased pace of innovation is required. At present, many barriers in the main body of the code interfere with experimentation and reduce regulator access to performance data. This provision allows interested local enforcing agencies more options for encouraging controlled, monitored, and contained innovation in their jurisdiction.

The remaining suggested revisions are at the detail level of the standard.

4. Under 4.4.8.2 Construction waste management

Add: 4.4.8.2.3 Facilitation of reuse The enforcing agency may make exceptions to the requirements found elsewhere in the code that serve as barriers to the reuse of salvaged/ on site harvested materials where this would not compromise health and safety.

Reason: Support for salvaging for reuse is stated here, but elsewhere in the code there are barriers to the use of those materials that are salvaged/ harvested on site, for example, ungraded lumber for use in non-critical applications.

5. Under “Site Development”, A4.1.6.1

Move all wording back to “Renewable Energy,” instead put: Site buildings for optimum solar access, with respect to property lines, geologic features, and vegetation.

6. Under Renewable Energy

A4.2.11.1 After “...oriented within 30° of south” insert , with an orientation to the SSE preferred to an orientation SSW. Situate less glazing on the S and E sides of the structure, with less on the N and W. Specify non-solar gain blocking (that is, not low E glass) where the passive solar design calls for solar gain. Provide thermal mass for storing direct and indirect solar gain, and moderating temperature swings.

Reason: Orientation without proper glazing and thermal mass is less helpful or counterproductive to the objectives of this standard.

7. Under A4.3.5.1 Graywater.

Is this a stub out requirement? Laundry stubouts should be required, other stub outs optional, with guidance as to best practice.

Delete existing language, insert: Unless infeasible, DWV system is configured to allow greywater diversion by gravity to a point no more than 6” below grade on the side of the house most suited for greywater irrigated landscape, by virtue of its downhill slope, solar exposure, and adequate area.

A pressure laundry greywater stub out 1” in diameter, with no slope or slope downhill in the direction of flow shall be provided from any washing machine not on an exterior wall to a suitable graywater irrigation area, as described above.

For washers on an exterior wall, a weather-and vermin resistant pass through for a 1” pressure line shall be provided at the height of the top of the washing machine.

Reason: Useful stub outs for gravity systems can be very expensive in adverse circumstances. Useful laundry stub outs are economical.

Thank you for your effort on this new green building standard.

Yours,

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