



A Tradition of Stewardship
A Commitment to Service

The California Building Standards Commission (BSC) and the Department of Housing and Community Development (HCD) are the best sources for understanding the new California Green Building Code.

Why a State Green Building Code

The Governor vetoed numerous Green Building Bills in 2007. The need for a Standard was realized and the Governor directed the Building Standards Commission to develop green building standards through the Building Standards Commission code development process. The BCS started focus groups in June, 2007. Attendees included a mix of industry, non-profits, environmental groups and interested members of the public. Attendees expressed concerns that the CA Green Building Code would preclude local governments from adopting more stringent standards. That is not the case; as a matter of fact the code was developed to compliment other green building efforts being developed by local governments.

Section 101.7 of the CGBC expresses this intent. In that section it states, "It is the further intent of the BSC that all entities subject to this code view these standards as minimal Green Building Standards and that local government entities retain their discretion to exceed the standards established by this code.

Where Are We Now

California Green Building Standards were approved by the California Building Standards Commission on **July 17, 2008**. The GBC will be published no later than **July 1, 2009**; will be effective no later than **July 1, 2009**. Generally, all measures are voluntary until the **2010 CBC effective date (targeted for Jan. 1, 2011)** at which time most (17) provisions adopted by the Dept. of Housing and Community Development (HCD) will become mandatory.

State Agency Adoptions

Building Standards Commission (BSC), Department of Housing and Community Development (HCD) and the Office of Statewide Health Planning and Development (OSHPD). The Division of the State Architect-Structural Safety (DSA-SS). DSA-SS has not adopted specific green building measures at this time. A combined version of the California Green Building Code is available online at www.bsc.ca.gov/prpsd/stds/default.htm. This version contains matrices (similar to the other California Codes) that indicate the specific provisions adopted by each of the participating State Agencies. Here is an example of the Matrix Adoption Table. I have also included a copy of Green Application Checklists for the participating State Agencies. This will give you an example of what types of forms will be required.

CALLIFORNIA GREEN BUILDING STANDARDS CODE – MATRIX ADOPTION TABLE

Adopting Agency	BSC	SFV	HCD			T; ^A		OSHFD				CSA	DH S	AGR	DW R	CcC	CA	SL	SLC
			I	2	1/AC	AC	•S	1	2	3	4								
Adopt Entire CA Chapter	X		X					X	X	X	X								
Adopt Entire Chapter as amended (amended sections listed below)																			
Adopt only those sections that are listed below																			
Chapter / Section																			

I have provided a sign up sheet for those that are interested in attending a presentation in more detail of the California Green Building Code.

GREEN APPLICATION CHECKLIST (AC-BSC)

7/8/08

GREEN BUILDING MEASURE	REQUIRED	OPTIONAL	REQUIRED 3RD PARTY VERIFICATION
504.5 Building orientation and shading. Locate, orient and shade the building as follows: 1. Long sides facing north and south 2. Exterior shade for south-facing windows during peak cooling season 3. Vertical shading for east-facing windows 4. Vertical shading for west-facing windows 5. Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials.		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
RENEWABLE ENERGY (511)			
511.1 On-site renewable energy. Use on-site renewable energy for at least 1% of the electrical service overcurrent protection device rating calculated in accordance with the 2007 California Electrical Code, or 1KW, whichever is greater, in addition to the electrical demand required to meet 1% of natural gas and propane use calculated in accordance with the 2007 California Plumbing Code. 511.1.1 Documentation. Calculate renewable on-site system to meet the requirements of Section 511.1. Factor in net-metering, if offered by local utility, on an annual basis. 511.2 Green Power. Participate in the local utility's renewable energy portfolio program that provides a minimum of 50% electrical power from renewable sources. Maintain documentation through utility billings.		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
ELEVATORS, ESCALATORS, AND OTHER EQUIPMENT (512)			
512.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide controls to reduce the energy demand of elevators and reduce the speed of escalators. Document the controls in the project specifications and commissioning plan. 512.1.1 Controls. Controls that reduce energy demand shall meet requirements of CCR, Title 8, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, T24, Part 2.	<input type="checkbox"/>	<input type="checkbox"/>	
ENERGY EFFICIENT STEEL FRAMING (513)			
513.1 Steel framing. Design for and employ techniques to avoid thermal bridging.		<input type="checkbox"/>	
WATER EFFICIENCY AND CONSERVATION INDOOR WATER USE (603)			
603.1 Meters. Separate meters or submeters shall be installed for indoor and outdoor potable water use.		<input type="checkbox"/>	
603.2 20% Savings. A schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20% shall be provided. (Calculate savings by Water Use Worksheets.)		<input type="checkbox"/>	
603.3 Appliances.			

GREEN BUILDING MEASURE	REQUIRED	OPTIONAL	REQUIRED 3RD PARTY VERIFICATION
<u>1. Clothes washers shall have a maximum Water Factor (WF) that will reduce the use of water.</u> <u>2. Dishwashers shall meet the criteria in 603.3(2)(a) and (b).</u> <u>3. Ice makers shall be air cooled.</u> <u>4. Food steamers shall be connection-less or boiler-less.</u> <u>5. The use and installation of water softeners shall be limited or prohibited by local agencies.</u>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
603.4 Wastewater reduction. Each building shall reduce the generation of wastewater by one of the following methods: <u>1. The installation of water-conserving fixtures or using non-potable water systems.</u> <u>2. Treat wastewater on-site to tertiary standards.</u>		<input type="checkbox"/> <input type="checkbox"/>	
603.5 Dual plumbing. New buildings and facilities shall be dual plumbed for potable and recycled water systems		<input type="checkbox"/>	
OUTDOOR WATER USE (604)			
604.1 Water budget. A water budget shall be developed for landscape irrigation use.	<input type="checkbox"/>		
604.2 Potable water reduction. Provide water efficient landscape irrigation design that reduces by 50% the use of potable water. <u>Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in 604.2.</u>		<input type="checkbox"/>	
604.3 Potable water elimination. Provide a water efficient landscape irrigation design that eliminates the use of potable water beyond the initial requirements for plant installation and establishment. <u>Methods used to accomplish the requirements of this section shall include, but not be limited to, the items listed in 604.3.</u>		<input type="checkbox"/>	
604.4 Graywater irrigation system. Install graywater collection system for onsite subsurface irrigation using graywater.		<input type="checkbox"/>	
604.5 Rainwater or stormwater collection systems. Constructed water collection devices may store water for landscape irrigation.		<input type="checkbox"/>	
MATERIAL CONSERVATION AND RESOURCE EFFICIENCY			
EFFICIENT FRAMING SYSTEMS (704)			
704.1 Wood framing. Employ advanced wood framing techniques, or OVE, as permitted by the enforcing agency.		<input type="checkbox"/>	
MATERIAL SOURCES (705)			
705.1 Regional materials. Select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site, meeting the criteria listed in 705.1.		<input type="checkbox"/>	
705.2 Bio-based materials. Select bio-based			

GREEN BUILDING MEASURE	REQUIRED	OPTIONAL	REQUIRED 3RD PARTY VERIFICATION
707.2.2 Entries and openings. <u>Design exterior entries and openings to prevent water intrusion into buildings.</u>		<input type="checkbox"/>	
CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING (708)			
708.1 Construction waste diversion. <u>Establish a construction waste management plan or meet local ordinance, whichever is more stringent.</u>		<input type="checkbox"/>	
708.2 Construction waste management plan. <u>Submit plan per this section to enforcement authority.</u>		<input type="checkbox"/>	
708.3 Construction waste. <u>Recycle and/or salvage for reuse a minimum of 50% of non-hazardous construction and demolition debris or meet local ordinance, whichever is more stringent.</u> Exceptions: 1. <u>Excavated soil and land-clearing debris.</u> 2. <u>Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.</u>		<input type="checkbox"/>	
708.4 Excavated soil and land clearing debris. <u>100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.</u>		<input type="checkbox"/>	
LIFE CYCLE ASSESSMENT (709)			
709.1 Materials and system assemblies. <u>Select materials assemblies based on life cycle assessment of their embodied energy and/or green house gas emission potentials. See 709.1.1 and 709.1.2 for available tools.</u>		<input type="checkbox"/>	
BUILDING MAINTENANCE AND OPERATION (709)			
710.1 Recycling by occupants. <u>Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling.</u>	<input type="checkbox"/>		
ENVIRONMENTAL QUALITY			
FIREPLACES (803)			
803.1 <u>Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150.</u>		<input type="checkbox"/>	
POLLUTANT CONTROL (804)			
804.1 Indoor air quality (IAQ) during construction. <u>Maintain IAQ as provided in Sections 804.1.1 and 804.1.2.</u> 804.1.2 Temporary ventilation. <u>Provide temporary ventilation during construction in accordance with Section 121 of the California Energy Code, CCR, Title 24, Part 6, and</u>		<input type="checkbox"/>	

GREEN BUILDING MEASURE	REQUIRED	OPTIONAL	REQUIRED 3RD PARTY VERIFICATION
<p><u>CHPS Low-emitting Materials List.</u></p> <p><u>804.4.6 Thermal Insulation.</u> Comply with Chapter 12-13 in Title 24, Part 12 and with the VOC-emission limits defined in CHPS Low-emitting Materials List.</p> <p><u>804.4.7 Acoustical ceilings and wall panels.</u> Comply with Chapter 8 in Title 24, Part 2 and with the VOC-emission limits defined in the CHPS Low-emitting Materials List.</p>		<input type="checkbox"/> <input type="checkbox"/>	
<p><u>804.5 Hazardous particulates and chemical pollutants.</u> Minimize and control pollutant entry into buildings and cross-contamination of regularly occupied areas.</p> <p><u>804.5.1 Entryway systems.</u> Install permanent entryway systems measuring at least six feet in the primary direction of travel to capture dirt and particulates at entryways directly connected to the outdoors as listed in Items 1 through 3 in 804.5.1.</p> <p><u>804.5.2 Isolation of pollutant sources.</u> In rooms where activities produce hazardous fumes or chemicals, exhaust them and isolate them from their adjacent rooms as listed in Items 1 through 3 in 804.5.2.</p> <p><u>804.5.3 Filters.</u> In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a MERV of 13.</p>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<p><u>804.6 Ozone depletion and global warming reductions.</u> Installations of HVAC, refrigeration, and fire suppression equipment shall comply with Sections 804.3.1, and optionally Section 804.3.2.</p> <p><u>804.6.1 CFCs.</u> Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.</p> <p><u>804.6.2 HCFCs and Halons.</u> Install HVAC, refrigeration and fire suppression equipment that do not contain HCFCs or Halons.</p>	<input type="checkbox"/>	<input type="checkbox"/>	
<p><u>804.7 Environmental tobacco smoke (ETS) control.</u> Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings by either Section 804.4.1 or 804.4.2; or as enforced by local ordinances, regulations, or policies, whichever are more stringent.</p>		<input type="checkbox"/>	
INDOOR MOISTURE AND RADON CONTROL (805)			
<p><u>805.1 Indoor moisture control.</u> Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.</p>		<input type="checkbox"/>	
AIR QUALITY AND EXHAUST (806)			
<p><u>806.1 Outside air delivery.</u> For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 121 of the California Energy Code, CCR, Title 24, Part 6 and Chapter 4 of CCR, Title 8, or the applicable</p>	<input type="checkbox"/>		

APPLICATION CHECKLIST (AC-HCD)

GREEN BUILDING MEASURE	<u>REQUIRED</u>	<u>OPTIONAL</u>	<u>REQUIRED 3RD PARTY VERIFICATION</u>
PLANNING AND DESIGN			
<u>Site Development</u> <u>(406)</u>			
406.2 A plan is developed and implemented to manage storm water drainage during construction.	2010 CBC ¹		
ENERGY EFFICIENCY			
<u>Performance Approach.</u> <u>(503)</u>			
503.2 Minimum requirements. Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards currently in effect.	2010 CBC		
<u>Prescriptive Approach.</u> <u>(504)</u>			
504.6 Minimum requirements. Low-rise residential buildings shall meet or exceed the minimum standard design required by the California Energy Standards currently in effect.	2010 CBC		
AIR SEALING PACKAGE <u>(506)</u>			
506.1 Joints and openings. Joints and other openings at the following locations: 1. Exterior joints around window and door frames, including doors between the house and garage, between interior H.V.A.C. closets and unconditioned space, between attic and underfloor access and conditioned space and between wall sole plates, floors, exterior panels and all siding materials. 2. Openings for plumbing, electrical and gas lines in exterior walls and interior wall, ceilings and floors. 3. Openings into the attic. 4. Exhaust ducts from clothes dryers and other exhaust fans shall have a damper. 5. Cuts or notches in exterior wall plates.	2010 CBC		
506.1.1 Other openings. Whole house fan louvers shall close tightly and be insulated.			

or covered to a minimum of R-4.2.			
<u>WATER EFFICIENCY AND CONSERVATION</u>			
<u>Indoor Water Use (603)</u>			
603.2 Indoor water use shall be reduced by 20% using one of the follow methods. 1. Water saving fixtures or flow restrictors shall be used. 2. A 20% reduction in baseline water use shall be demonstrated.	7/01/2011		
603.2.1 Multiple showerheads shall not exceed maximum flow rates.	7/01/2011		
<u>MATERIAL CONSERVATION AND RESOURCE EFFICIENCY</u>			
<u>Construction Waste Reduction, Disposal and Recycling (708)</u>			
708.-A minimum of 50% of the construction waste generated at the site is diverted to recycle or salvage. Exception: Alternate waste reduction methods are developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.	2010 CBC		
<u>Building Maintenance and Operation (710)</u>			
710.2 An operation and maintenance manual shall be provided to the building occupant or owner.	2010 CBC		
<u>INDOOR ENVIRONMENTAL QUALITY</u>			
<u>Pollutant Control (804)</u>			
804.4.1 Adhesives shall be No- or Low-VOC.	2010 CBC		
804.4.2 Paints, stains and other coatings shall be No- or Low-VOC.	2010 CBC		
804.4.3 Carpet and carpet systems shall be Low-VOC.	2010 CBC		
804.4.4 Particleboard, medium density fiberboard (MDF), and	2010 CBC		

<u>plywood used in interior finish systems shall comply with low formaldehyde emission standards.</u>			
<u>Interior Moisture Control</u> <u>(805)</u>			
<u>805.2 Vapor retarder and capillary break is installed at slab on grade foundations.</u>	<u>2010 CBC</u>		
<u>805.3 Moisture content of wood used in wall and floor framing is checked before enclosure.</u>	<u>2010 CBC</u>		
<u>Air Quality and Exhaust</u> <u>(806)</u>			
<u>806.3 Exhaust fans which terminate outside the building are provided in every bathroom.</u>	<u>2010 CBC</u>		
<u>806.4 MERV 6 or higher filters are installed on central air and heating systems.</u>	<u>2010 CBC</u>		

Unless specified otherwise, this measure shall become effective on the effective date of the 2010 California Building Code.

GREEN APPLICATION CHECKLIST (AC-OSHDPD)

GREEN BUILDING MEASURE	REQUIRED	OPTIONAL	REQUIRED 3RD PARTY VERIFICATION
ENERGY EFFICIENCY			
<u>PRESCRIPTIVE MEASURES</u> <u>(504)</u>			
<u>504.1 ENERGY STAR equipment and appliances.</u> All equipment and appliances provided by the builder shall be ENERGY STAR labeled if ENERGY STAR is applicable to that equipment or appliance		<input type="checkbox"/>	
<u>504.5 Building orientation and shading.</u> Locate, orient and shade the building as follows: 1. Exterior shade for south-facing windows during peak cooling season 2. Vertical shading for east-facing windows 3. Vertical shading for west-facing windows		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
<u>MATERIAL CONSERVATION AND RESOURCE EFFICIENCY</u>			
<u>CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING</u> <u>(708)</u>			
<u>708.1 Construction waste diversion.</u> Establish a construction waste management plan or meet local ordinance, whichever is more stringent.		<input type="checkbox"/>	
<u>708.3 Construction waste.</u> Recycle and/or salvage for reuse a minimum of 50% of non-hazardous construction and demolition debris. <u>Exceptions:</u> 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.		<input type="checkbox"/>	
<u>708.4 Excavated soil and land clearing debris.</u> 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.		<input type="checkbox"/>	
<u>BUILDING MAINTENANCE AND OPERATION</u> <u>(709)</u>			
<u>710.1 Recycling by occupants.</u> Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling.		<input type="checkbox"/>	
<u>ENVIRONMENTAL QUALITY</u>			
<u>POLLUTANT CONTROL</u> <u>(804)</u>			
<u>804.4 Finish material pollutant control.</u> Finish materials shall comply with Sections 804.1.1 through 804.1.4. <u>804.4.1 Adhesives.</u> Adhesives used on the project shall meet the requirements of the following standards. 1. Adhesives, adhesive bonding primers, and adhesive primers shall comply with Table 804.4.1. 2. Aerosol adhesives shall meet the requirements of California Code of Regulations, Title 17, commencing with		<input type="checkbox"/> <input type="checkbox"/>	

<u>GREEN BUILDING MEASURE</u>	<u>REQUIRED</u>	<u>OPTIONAL</u>	<u>REQUIRED 3RD PARTY VERIFICATION</u>
<u>804.7 Environmental tobacco smoke (ETS) control.</u> Prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings by either Section 804.4.1 or 804.4.2; or as enforced by local ordinances, regulations, or policies, whichever are more stringent.		<input type="checkbox"/>	
<u>INDOOR MOISTURE AND RADON CONTROL (805)</u>			
<u>805.1 Indoor moisture control.</u> Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1203 and Chapter 14.		<input type="checkbox"/>	
<u>ENVIRONMENTAL COMFORT (807)</u>			
<u>807.5 Acoustical control.</u> Employ building assemblies and components with STC values determined in accordance with ASTM E90 and ASTM E413.		<input type="checkbox"/>	
<u>807.5.1 Exterior noise transmission.</u> Wall and floor-ceiling assemblies making up the building envelope shall have an STC of at least 50, and exterior windows shall have a minimum STC of 30 for any of the building locations listed in Items 1 through 3 in 807.5.1.		<input type="checkbox"/>	
<u>807.5.2 Interior sound.</u> Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 50.		<input type="checkbox"/>	