



2008 CALIFORNIA GREEN BUILDING STANDARDS CODE

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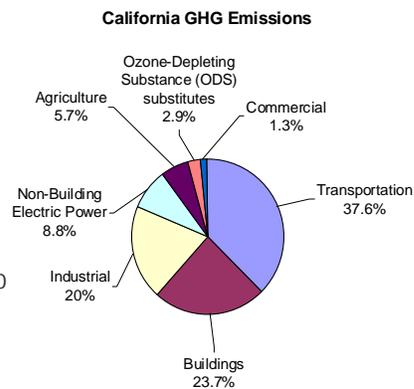
2008 California Green Building Standards Code - CALGREEN

- **Presentation Overview**
 - Why a CALGREEN Code
 - The Role of the CBSC
 - How the CALGREEN Code was Developed
 - Scope and Application of the Code
 - Voluntary
 - Mandatory
 - Future of the CALGREEN Code



CA Green Building Initiative & Global Warming Solutions Act of 2006 (EO S-20-04 & AB32)

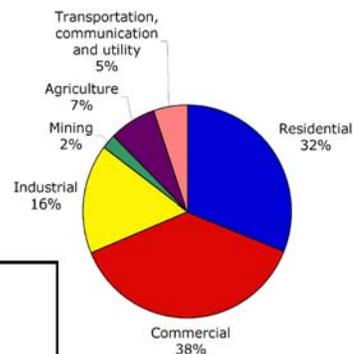
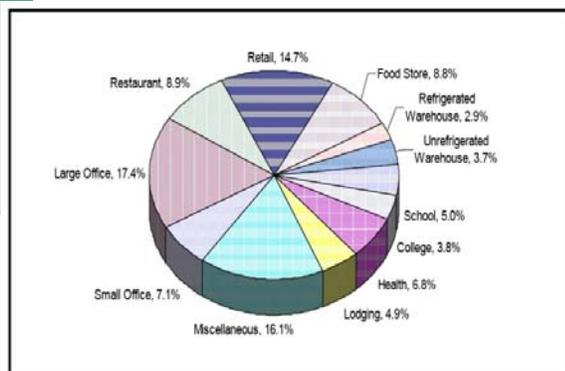
- Buildings are 2nd largest contributor (23.7%) to GHG emissions
- EO S-20-04: Reduce grid-based electricity by 20% in state-owned buildings by 2015; reduce associated greenhouse gas emissions
- AB 32: Reduce GHG emissions to 1990 levels by 2020



Source: CARB 2004 Inventory



Energy Use in California





California Building Standards Commission

■ CBSC Responsibilities

- Review building standards proposed by state agencies
- Develop building standards for non-residential occupancies where no other state agency has the authority



California Building Standards Commission

- Adopt and approve building standards for publication
- Codify approved building standards
- File approved building standards with the Secretary of State





California Building Standards Commission

- Contract to publish the California Building Standards Code
- Act as the state depository for local government modifications



California Building Standards Commission

- **11 Commissioners appointed by law**
- **Code Advisory Committees (CAC)**
 - Advise Commission and CBSC staff on proposed building standards
 - Six Committees
 - **Green Building Committee**



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- New Part of California Building Standards Code under Title 24
 - Part 11 - Green Building Standards Code



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- Adopting State Agencies
 - California Building Standards Commission (CBSC)
 - The Department of Housing and Community Development (HCD)
 - Division of the State Architect (DSA)
 - Office of Statewide Health Planning and Development (OSHPD)





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■ Contributing State Agencies

- California Integrated Waste Management Board
- Department of General Services
- Department of Public Health
- Department of Water Resources
- Energy Resources Conservation and Development Commission



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■ Additional resources utilized in developing Green Building Standards Code

- Collaborative for High Performance Schools (CHPS)
- Leadership in Energy and Environmental Design (LEED)
- Green Globes
- UC Berkeley Green Building Baseline
- Draft ASHRAE Standard 189P





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- Sustainable Building Task Force
 - Established by Executive Order D-16-00
- Green Building Action Team
 - Established by Executive Order S-20-04
- CBSC and HCD Green Building Focus Group
 - Building officials
 - Representatives from the construction industry
 - Representatives from international building code writing bodies
 - Representatives from the environmental community
 - State agency representatives



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- **Green Building Standards Code**
 - Initial Voluntary Standards
 - Effective August 1, 2009
 - Tier 1
 - Tier 2



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■ Local Government Ordinances

- Local jurisdictions may adopt more stringent versions of the California Building Standards Code
- Justification for making local modifications
 - Climate
 - Topography
 - Geology



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■ Topics addressed in the Voluntary Standards

- Planning and design
- Energy conservation
- Water efficiency
- Materials usage efficiency
- Indoor environmental quality



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■ Chapter 4 Planning and Design

- Storm Water runoff

■ Chapter 5 Energy Efficiency

- Tier 1 – 15% energy reduction
- Tier 2 – 30% energy reduction
- Energy Star Appliances
- Building Commissioning



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■ Chapter 6 Water Efficiency and Conservation

- 20% indoor
- Landscape irrigation
- Energy star
- DWR Water Budget



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■ Chapter 7 Material Conservation and Resource Efficiency

- Material Sources
- Recycled Content
- Recyclable Materials
- Construction Waste



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■ Chapter 8 Environmental Quality

- Ventilate during construction
- Building flush out prior to occupancy
- Tables relating to material VOC limits
- Flooring
- IAQ
- Environmental Comfort



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- **Transition from Voluntary to Mandatory Compliance**
 - 2010 Mandatory CALGREEN Codes
 - Effective January 1, 2011



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- **Nonresidential Mandatory Measures**
 - 2010 Chapter 5
 - Tier 1
 - Tier 2
 - Optional Measures in Appendices





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- Planning & Design
- Energy Efficiency
- Water Efficiency and Conservation
- Material Conservation and Resource Efficiency
- Construction Waste Reduction, Disposal and Recycling



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- Building Maintenance and Operation
- Environmental Quality
- Indoor Moisture Control
- Indoor Air Quality and Exhaust
- Environmental Comfort



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■ Long Term Goals

- Future Code Adoptions
 - Code Adoption Cycles
- Outreach & Education



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■ CALGREEN Building Standards

Education & Outreach

- Contact
 - Cynthia Biedermann
 - (916) 263-0916
- Visit the California Building Standards Commission website, www.bsc.ca.gov for code updates



Grid Neutral

DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

The Goal: Grid Neutral

Definition:

A site that produces as much electricity as it uses in a year.



Developing Grid Neutral

- A series of workshops were held in 2008 to discuss the critical steps to becoming grid neutral, including:
 - Comprehensive Planning
 - Energy Efficient Design
 - Energy Generating Technologies
 - Energy Measurement
 - Maintenance & Operations
 - Innovative Funding



Information on Grid Neutral

- A guidebook is published online at: www.dsa.dgs.ca.gov/OtherProg/gridneutral.htm
- A video about grid neutral is available on YouTube at: <http://www.youtube.com/califdgs#play/uploads/5/hLfDMBYOzz0>



Grid Neutral Guidebook

- In addition to covering the six workshop topics, the Grid Neutral Guidebook establishes these four steps to grid neutral:

1 New School: Set Energy Performance Goal
Existing School: Measure current Use, Set Goal

2 Implement & maintain appropriate energy efficiency & conservation measures to lower electricity use.

3 Install solar or wind systems to create electricity to meet remaining needs.

4 Maintain energy systems.
Monitor electricity consumption & production.



DAVID THORMAN
STATE ARCHITECT

The Collaborative Process

DIVISION OF THE STATE ARCHITECT
DEPARTMENT OF GENERAL SERVICES

Collaborative Process Now Available

- DSA had been partnering with K-12 school and community college districts to informally pilot parts of the collaborative process
- Informal collaborative partnering provided useful information in developing the formal collaborative process
- DSA Bulletin 09-07 was posted, and made available the formal Collaborative Process for use by community colleges as of July 13, 2009



Collaborative Process

- DSA provides consultation and review services during the design process
- Significant code deficiencies are more easily corrected during the design phase
- Potential savings on design & review time
- Requires:
 - Collaborative, open communication between all team members
 - Increased effort in planning during design phase
 - Early decision making, contribution of ideas, and consensus on design solutions and issues



Phases of the Collaborative Process

- Initiating the collaborative process
 - District contacts DSA; submit application & fees
 - Schedule first meeting
- Project design phase collaboration
 - Plan/schedule collaborative process meetings to meet the need of the project
 - Conduct collaborative process meetings/desk reviews
- Plan review & approval
 - Intake
 - Plan review (coordinated with collaborative process agreements)



Project Attributes for Successful CP

- For the formal collaborative process, the project attributes should include:
 - An adequate project budget with credible project cost and constructability assessment
 - Design team with experienced staff and budget to fulfill design phase collaboration
 - No significant changes during the final design phase (construction documents)



Community College Building Code

- Adopt 2010 California Building Code provisions applicable to California Community College (CCC) buildings
- Provide alternative building standards that the CCC may utilize in lieu of the Field Act
- Include, where appropriate, the building standards governing the construction of structures at the California State University (CSU)
 - CSU buildings are constructed to the California Building Code base chapters.



Statewide Team & Advisory Board

- New DSA Statewide Team formed for Community Colleges
 - Members include the community college district project coordinators from each of the DSA Regional Offices
 - Charged with the responsibility of resolving issues specific to community colleges and the collaborative process
 - Acts as a deliberative body to resolve appeals through the DSA Code Appeals Process (CAP)
 - Generates concepts for process improvements
- New committee formed under the DSA Advisory Board



Need Help?

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DEPARTMENT OF GENERAL SERVICES

DSA is Here to Assist You



- DSA is online at www.dsa.dgs.ca.gov
- Call our offices:
 - Oakland Regional Office: (510) 622-3101
 - Sacramento Regional Office: (916) 445-8730
 - Los Angeles Regional Office: (213) 897-3995
 - San Diego Regional Office: (858) 674-5400
 - Headquarters: (916) 445-8100





California Building Standards Code

- California Building Standards Commission
- Division of the State Architect

■ Questions?

- Please complete the Education & Outreach Survey