



DIVISION OF THE  
STATE ARCHITECT  
DEPARTMENT OF GENERAL SERVICES

# DSA Green Code

Coalition of Adequate School Housing  
2010 Annual Conference

State Architect David Thorman, AIA  
Theresa Townsend, AIA

## Green Building Standards Code

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- Development of the next version of the Green Building Standards Code is underway
  - Published January 2010
  - Effective January 2011
- The Building Standards Commission is working in conjunction with the Division of the State Architect
- For the first time, the code will define the term “grid neutral”



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## Mandatory & Voluntary Measures

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- The code will include both mandatory and voluntary measures
- Both types of measures will exist in areas of sustainable sites, energy efficiency, materials & resources, and indoor environmental quality



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## Mandatory Measures

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## Mandatory Measures

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- Some of the mandatory measures are already required by code
  - New requirements to be in green
- Mandatory measures apply to new construction projects on:
  - New sites
  - Cleared existing sites



## Planning & Design

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- Light Pollution Reduction (Title-24)
  - Interior lighting contained within task area
  - Automatically control exterior lighting dusk to dawn to turn off or lower light levels during inactive periods
- Grading & Paving
  - The site shall be planned & developed to keep surface water from entering buildings



## Energy Efficiency

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- Title-24, Part 6 Energy Efficiency Standards



## Indoor Water Use

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- **Reduce Indoor Water Use By 20%**
  - Based on maximum allowable water use per fixture & fitting
- **Reduce Waste Water By 20%**



## Water Resistance

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- Weather Protection
  - Weather-resistant exterior wall & foundation
- Moisture Control through the use of:
  - Sprinklers (prevent spray on structures)
  - Entries & openings (design exterior entries subject to foot traffic or wind-driven rain to prevent water intrusion)



## Construction Waste Reduction

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- Construction Waste Management Plan
  - Establish plan and submit documentation to local authority or other enforcement agency
  - Isolated jobsites will be exempted if they are located in areas beyond the haul boundaries of the diversion facility
- Recycle and/or salvage 50% of non-hazardous construction and demolition debris



## Building Maintenance/Operations

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- Provide readily accessible areas for recycling by occupant



## Pollutant Control

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- Covering of duct openings and protection of mechanical equipment during construction
- Limits for Volatile Organic Compounds (VOCs) in:
  - Adhesives, sealants, and caulks
  - Paints and coatings
  - Carpet Systems
  - Carpet Cushions
  - Carpet Adhesive
  - Composite wood products
  - Resilient Flooring Systems
- Air Filtration to use MERV 8 filters



## Indoor Control

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- The Code outlines the applicable provisions for :
  - Indoor Moisture Control
  - Indoor Air Quality



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## Voluntary Measures

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## Sustainable Sites

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- Bike & Fuel Efficient Vehicle Parking
- Reduced Parking Capacity
- Building Orientation & Shading
- Reduced Heat Island Effect



## Energy Efficiency

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- Energy Performance
- Energy Star Computers, Equipment, Appliances
- Energy Monitoring
- Grid Neutral



## Water Efficiency

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- 30% Savings
- Efficient Appliances
- Water Budget
- Potable Water Reduction



## Materials & Resources

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- Recycled Content Materials
- Enhanced Durability & Reduced Maintenance
- Enhanced Construction Waste Reduction
- Life Cycle Assessment
- Commissioning



## Indoor Environmental Quality

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- Ventilation
- Formaldehyde Limits
- Acoustical Ceilings & Walls
- Isolation of Pollutant Sources
- Lighting & Thermal Control
- Views



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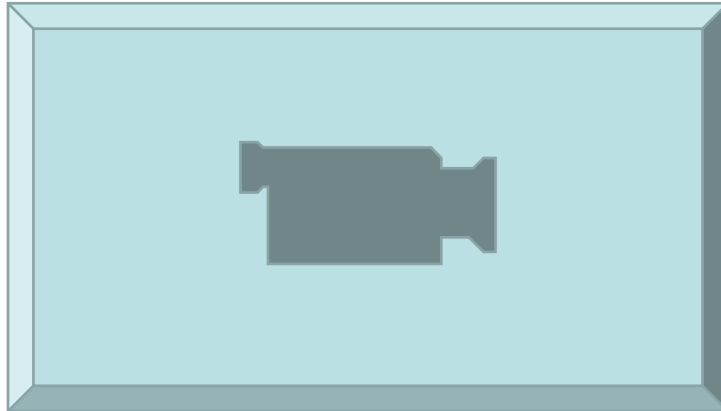
## Grid Neutral in Code

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## Grid Neutral Video

Available on YouTube at:

<http://www.youtube.com/califdgs#p/u/6/hLfDMBYOzz0>



## Grid Neutral Codified

- A5.211.2 defines the term “grid neutral”
- Production to consumption ratio
  - Uses Title 24 energy calculations
  - Proposed annual renewable electrical energy production (kwh) divided by annual electrical energy budget (kwh)

$$\text{GRID NEUTRAL PERCENTAGE} = \frac{\text{PRODUCTION}}{\text{CONSUMPTION}}$$

- Estimated electrical plug loads shall be included
- Existing buildings shall use actual data
- Annual renewable electrical energy can be renewable energy produced off-site

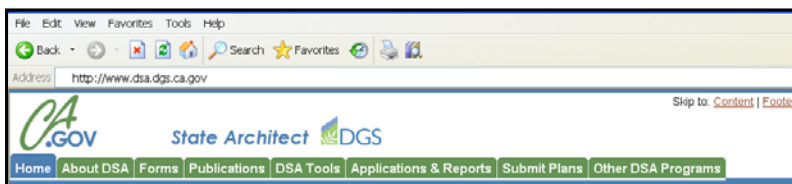


## Grid Neutral Increments

- In addition to defining grid neutral, the code describes incremental levels for grid neutral
  - A site is **35% grid neutral** if the annual electrical production and consumption ratio is equal or greater than .35.
  - A site is **75% grid neutral** if the annual electrical production and consumption ratio is equal or greater than .75.
  - A site is **grid neutral** when the annual production and consumption ratio is equal or greater than 1.



## Contact DSA



- DSA is online at [www.dsa.dgs.ca.gov](http://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





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# THANK YOU!

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