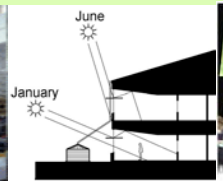
Global Green USA

LOCAL GOVERNMENT GREEN BUILDING INITIATIVE







Global Green USA

RESCUE PROGRAM

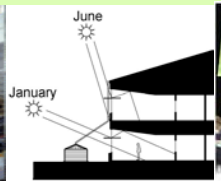
Resource Efficiency and Sustainable Communities for the Urban Environment Program

Focus Areas

- *Local Government Green Building Initiative*
- *Greening Affordable Housing Initiative*







GLOBAL GREEN USA

Local Government Green Building Initiative

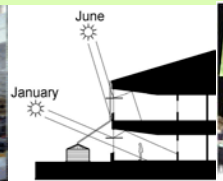
- **Current city and county partners**
  - **Irvine**
  - **Santa Clarita**
  - **West Hollywood**
  - **Los Angeles**
  - **Santa Monica**
  - **San Francisco**
  - **San Jose**
- **Member of US Green Building Council Board and Local Government Commitee**

Global Green Services

- Technical Assistance
- Workshops
- Design Charrettes
- Needs Analysis
- Program Design
- Program Materials
- Outreach and Policy
- Green Building Resource Center



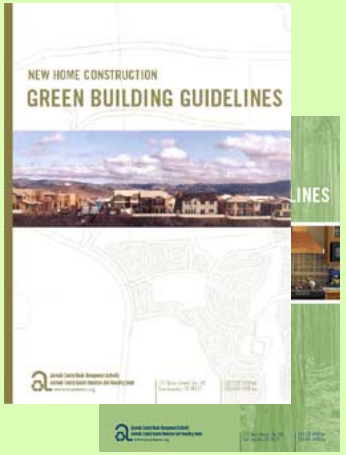



Services and Resources

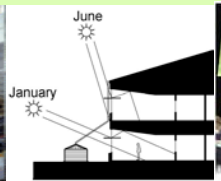
Global Green USA provides the following:

- Strategic analysis
- Policy development
- Program design
- Outreach with key stakeholders
- Development of guidelines and resources
- Workshops
- Design charrettes







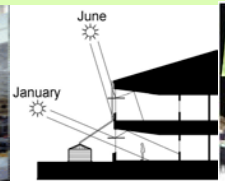


WHAT IS GREEN BUILDING?

"Green Building" is a <u>process</u> for creating buildings and supporting infrastructure that: 1) minimize the use of resources, 2) reduce harmful effects on the environment, and 3) create healthier environments for people.






ENVIRONMENTAL IMPACTS OF BUILDINGS

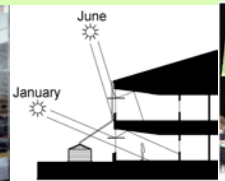
The construction and operation of buildings has numerous detrimental effects on the local, regional, and global environment:

- **40% of annual US energy use**
- **30% of US CO2 production**
- **25% of water use**
- **20% - 40% of solid waste**
- **30% of wood and raw materials**
- **30%+ of buildings have poor indoor air quality (people spend about 90% of their time indoors)**

- **Air pollution**
- **Global warming**
- **Water scarcity**
- **Landfills**
- **Deforestation**
- **Public Health**
- **Habitat loss**
- **Ozone layer depletion**
- **Urban Heat Island**






GREEN BUILDING BENEFITS

TO THE ENVIRONMENT:

- **Greenhouse gas reduction**
- **Improved water quality**
- **Solid waste reduction**
- **Improved air quality**

TO THE CITY:

- **Increase the value of existing programs**
- **Demonstrate environmental leadership**
- **Preserve local quality of life**

TO BUILDERS:

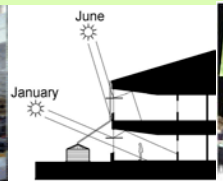
- **Lower waste disposal cost**
- **Reduced use of materials**
- **Unique marketing potential**

TO OWNERS/USERS:

- **Lower energy and water bills**
- **Healthier/more productive living/working environment**
- **Reduced maintenance costs**
- **Greater price appreciation and increased resale value**
- **Preferential mortgages**






GREEN BUILDING PROCESS

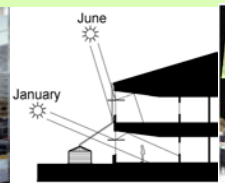
- **The Green Building Process includes:**
  - Multi-disciplinary teams
  - Collaboration from beginning of the project
  - Identification of agreed upon objectives and targets
  - Commitment from all parties
  - Life-cycle costing (long-term perspective)
  - Follow through into construction and operation
- **Sustainable building strategies should be incorporated into all project phases - from programming & budgeting, to design & construction, to operation & maintenance.**

GREEN BUILDING COMPONENTS

- **SITE:** ***site selection & planning, landscaping, stormwater management, construction and demo recycling***
- **WATER EFFICIENCY:** ***efficient fixtures, wastewater reuse, efficient irrigation***
- **ENERGY/ATMOSPHERE:** ***energy efficiency, clean/renewable energy, no HCFCs or CFCs***
- **MATERIALS/RESOURCES:** ***materials reuse, efficient building systems, use of recycled and rapidly renewable materials***
- **INDOOR ENVIRONMENTAL QUALITY:** ***improved indoor air quality, increased daylighting, better thermal comfort/control***






ase Study – Ladera Ranch

Energy Star® is baseline

EnergySmart features include:

SPECTRALLY SELECTIVE, LOW E GLASS
Minimizes fabric fade and reduces energy loss.

SEALED DUCT SYSTEM
Reduces wasted energy by eliminating air leaks into non-living spaces.

PHOTOVOLTAIC CELLS FOR SOLAR ELECTRIC POWER
Harvest sunlight to generate electricity for your home.

FLUORESCENT LIGHTING
Uses 66% less heat and lasts up to 10 times longer than incandescent.

ENERGY STAR APPLIANCES
Use 10% to 50% less energy, depending on the product.

THIRD-PARTY ENERGY INSPECTION
ComfortWise certifies that a home exceeds federal code by 30%.

EarthSmart features include:

ENGINEERED AND CERTIFIED WOOD
Grown and harvested in a way that protects forests.

TANKLESS WATER HEATER
Heats only the amount of water needed to the desired temperature.

CELLULOSE ATTIC INSULATION
Made from recycled newspaper and sprayed in for superior sealing with little waste. FLOORING FROM SUSTAINABLE AND RECYCLED MATERIALS
Uses material like bamboo, cork and carpet from recycled soda bottles.

HealthSmart features include:

LOW VOC PAINT
Is virtually non-toxic, with little odor and no ozone-depleting chemicals.

CENTRAL VACUUM SYSTEM
Contributes to indoor air quality by drawing dust-laden air to an outdoor canister.

REVERSE OSMOSIS WATER TREATMENT SYSTEM
Reduces up to 99% of impurities found in tap water.

ZEH - Zero Energy Homes standard
50% Energy Savings







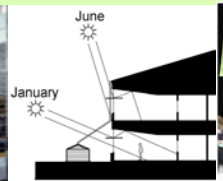
Case Study - Colorado Court

Project Information:

- 44 studio units urban infill development in a prominent location at 5th and Colorado in downtown Santa Monica
- Considered to be a showcase of green technologies and design
- Construction Cost: $4.3 million
- Cost per square foot: $144
- Architect: Pugh Scarpa






Case Study - Colorado Court

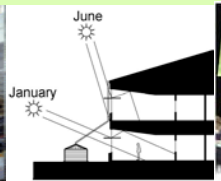
- Landscaping/Site Planning
  - Existing palm trees kept on site
  - Permeable gravel alley and underground stormwater retention system will retain 95% of the site's stormwater runoff (and 100% of the entire block's alley runoff) to allow its gradual absorption into the groundwater
  - Drought-tolerant plantings, including native plants and ground cover
  - Drip irrigation system with season adjustment
  - Parking spaces located underneath building to reduce heat island effect
  - Bike storage area

Case Study - Colorado Court

- Resource Conservation
  - Construction site waste recycling
  - Recycling bin storage area
- Indoor Environmental Quality
  - Operable windows and transoms for natural cross ventilation
  - Natural daylighting through courtyard design and window placement
  - Low-VOC finishes, non-formaldehyde MDF for cabinetry, recycled carpeting
- Materials
  - Linoleum instead of vinyl flooring (pending availability of contingency funds as the project nears completion)





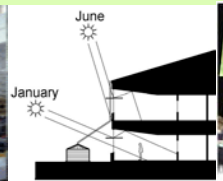




Case Study - Colorado Court

- Energy Efficiency
  - Maximize natural daylighting and ventilation. Air conditioning will be needed and provided in only one small area of office space.
  - Shading for south-facing windows
  - Minimal glazing on west façade
  - Double-pane, low-E, high efficiency glazing
  - Compact fluorescent, low-mercury bulbs
  - Indoor and outdoor motion sensors for lighting
  - R-30 insulation in the roof
  - Compact, energy-efficient refrigerators
  - The building will exceed California Title 24 Energy Code efficiency standards by 50%





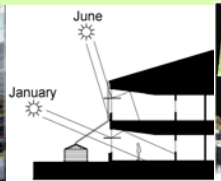




Case Study - Colorado Court

- On-Site Energy Generation
  - PV Panels incorporated into building envelope and rooftop
  - Natural gas turbine and cogeneration system is mainly used of water and space heating
  - 100% of the power needed by the building occupants will be generated on-site by solar photovoltaic panels and a gas turbine







GUIDELINES

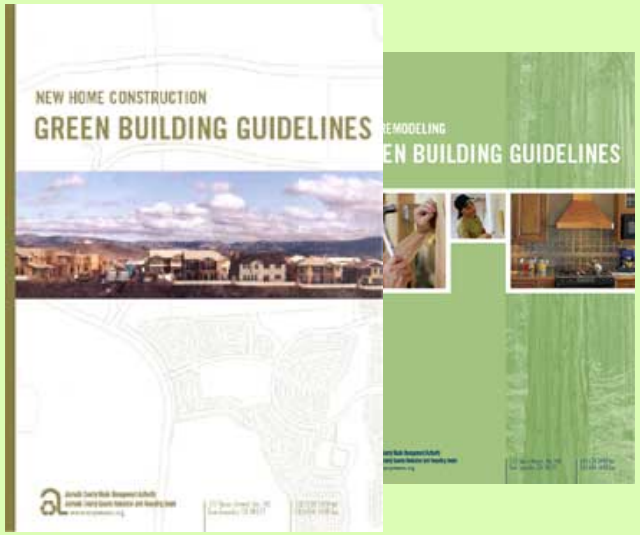
- **PUBLIC / COMMERCIAL**

LEED™ rating developed by the U.S. Green Building Council

- **RESIDENTIAL**

Alameda County Waste Management

  - New Home Construction Guidelines
  - Remodeler Guidelines



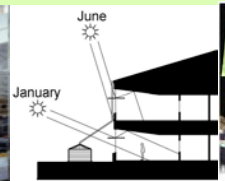
Both guidelines were developed in collaboration with public & private stakeholders

SOUTHERN CALIFORNIA PROGRAMS

- **Los Angeles Sustainable Building Program** (1998)
  - Single- and multi-family rehab projects (V)
  - Established LEED Certified as standard for municipal projects
- **Santa Monica Green Building Design and Construction Guidelines and Program** (1999)
  - Municipal projects (M)
  - Multi-family projects (M&V)
  - Commercial projects (M&V)







SOUTHERN CALIFORNIA PROGRAMS

- **City of Santa Clarita** (2001-)

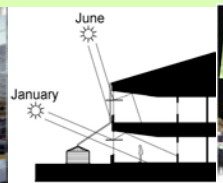
  - Established the **Community Energy Efficiency Program** (CEEP) in 2000. Provides incentives (fee reduction and expedited processing) for projects that exceed Title 24 energy efficiency requirements (V). Considering greening the new transportation center.

- **City of Irvine** (2002)

  - Completed survey of all environmental programs. Identified residential as target for private sector green building program. Explored using LEED for City Wilderness Awareness Center project. Developed directory of locally available green building products. Considered printing Alameda County Guidelines for local use.





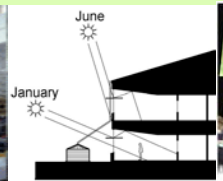




CITY OF SANTA CLARITA

- City currently has policies in the General Plan that support sustainable building practices.
- Existing Community Energy Efficiency Program (CEEP) Program provides a foundation:
  - Requires energy efficiency improvements
  - Offers expedited permit processing and fee reductions to participating builders
  - Experience with recognition programs such as “Caught You Doing Something Good” awards.






CITY OF SANTA CLARITA

Current

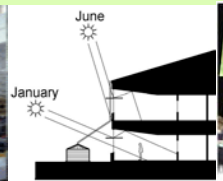
- Demonstrating leadership by “greening” several upcoming municipal projects.
- Exploring options for adopting LEED as a local standard for municipal projects.

Future

- Establish Residential Program by adding several components to the existing CEEP Program.
- Use LEED as the basis for a Commercial Program.








POSSIBLE TIME LINE

YEAR 1: Initiate Sustainable Building Program by "greening" several upcoming projects:

- *Aquatic Center*
- *Transportation Facility*

YEAR 2: Adopt LEED as standard for municipal projects.

YEAR 2: Launch Residential Program

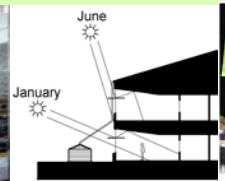
YEAR 3: Launch Commercial Program

- HOW TO GET STARTED -

1. Inventory existing City policies and programs, identify relationship to green building components, identify gaps
2. Coordinate with City and private-sector stakeholders
3. Determine the program focus (municipal, residential, commercial)
4. “Green” an upcoming municipal project to build community interest and support for the program
5. Develop a program implementation plan utilizing LEED™, Alameda County, and other standards & guidelines
6. Establish incentives
7. Create program outreach materials
8. Provide training for City staff, local designers, and builders
9. Apply for funding from CIWMB, California Energy Commission, CPUC, and utilities to leverage incentives






FOR MORE INFORMATION

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