

# Local Government Energy Efficiency

## Best Practices

### Green Building

#### City of San Rafael

Marin County, CA

Population: 55,600 (2008)

#### SUMMARY

The construction and operation of buildings contribute 34% of local greenhouse gas generation and consume almost two-thirds of national power generation. The debris from building construction composes about one quarter of the waste stream to landfills.

The City of San Rafael's Climate Change Action Plan seeks to reduce local production of greenhouse gases by 25% by the year 2020. To achieve this, new buildings, and those that already exist, must become much more energy efficient.

Green building techniques, which often reduce construction waste and costs, combined with new, higher efficiency materials and appliances, result in buildings which are less impactful on the environment and which save considerable energy and water costs throughout their useful life.

Building occupants are less prone to respiratory problems. Green buildings are worth more at resale and command higher rental rates.

Green building is both technologically possible now and makes good long-term financial sense.

## San Rafael's Green Building Ordinance



#### PROGRAM HIGHLIGHTS

This ordinance applies to both new construction and remodeling, and utilizes GreenPoint Rated checklists for residential construction and LEED® for non-residential construction. Requirements increase with project size.

For new residential buildings over 500 square feet and remodeling projects over \$100,000 in valuation, a GreenPoint Rater must be retained.

A unique requirement in the ordinance is that any residential remodeling exceeding \$50,000 is required to have a home performance audit completed to better inform the property owner in considering options for the scope of the remodeling project.

Two home performance auditing standards are acceptable, those performed by HERS (Home Energy Rating System) raters certified by the California Energy Commission or raters certified by the Building Performance Institute.

For new commercial buildings over 2,000 square feet and renovations over \$5 million in valuation a LEED® AP (who also has an additional field inspection certification as a GreenPoint Rater or a Building Performance Institute contractor) must be retained.

Involving these professionals early in the design process will maximize savings by identifying cost-effective building components and construction techniques.

# San Rafael - Green Building Ordinance

## LESSONS LEARNED

The countywide collaboration in the BERST process was accomplished through:

- 1) having a local political leader as the “convener” of the Task Force of elected representatives,
- 2) a local champion willing to facilitate the process (the Community Development Director of San Rafael), and
- 3) very active involvement of the construction industry (the Technical Advisory Committee exceeded forty participants).

Contractors and architects in Marin are very familiar with green building techniques and see green building as a way to spur the construction industry during the recessionary period.

The critical need to include all relevant professionals in the BERST process was demonstrated by not including a representative of commercial real estate professionals on the Technical Advisory Committee. Their late involvement in the process required reconsideration of non-residential remodeling requirements, which then were made less stringent to facilitate reuse of currently vacant retail and office buildings without imposing additional green retrofit requirements.

## THE REST OF THE STORY

The City of San Rafael adopted a mandatory green building ordinance in 2007, applicable only to new residential and commercial buildings. The Climate Change Action Plan (CCAP), adopted in 2009, identified that 34% of local greenhouse gas production comes from energy use in residential and commercial buildings.

Since over 80% of construction activity in the City involves renovations of existing buildings, the CCAP recommended updating the green building ordinance to address remodeling as well as new construction.

Rather than updating San Rafael’s green building regulations in isolation, the City Council endorsed a collaborative process with other Marin cities, towns and the County. Mayors from within Marin County appointed a city council member or planning commissioner to a task force to help develop a model green building ordinance for adoption throughout the county. This collaborative process was dubbed Marin Green BERST (Green Building, Energy Retrofit and Solar Transformation).



A Technical Advisory Committee (TAC) was assembled, consisting of architects, contractors, realtors, energy consultants, building officials, home performance auditors, environmentalists and representatives from the Marin Municipal Water District, Marin Builders Association, Marin Energy Authority and Pacific Gas & Electric.

The TAC developed recommendations for a comprehensive set of green building regulations intended to significantly reduce energy and water demands and,

## San Rafael Green Building Ordinance

therefore, greenhouse gas production from residential and commercial buildings. These recommendations were shared with and endorsed by the BERST Task Force.

### *Specific Requirements:*

- New hot water pipes and existing hot water pipes that are exposed when walls are opened up during remodeling must be insulated.
- When reroofing projects include the removal of roof sheathing, exposing roof rafters, a radiant barrier must be installed.
- Construction, demolition and renovation projects that affect more than 1,000 square feet of building area must divert at least 50% of the total project debris via reuse or recycling.
- New residences must include the installation of empty electrical conduit and piping to accommodate a future installation of a photovoltaic or solar hot water system.
- New commercial buildings over 5,000 square feet must include conduit for a future photovoltaic system. The inclusion of this conduit and piping is very inexpensive at the time of new construction, but can be very expensive during a building retrofit.

### *Incentives:*

All projects meeting green building requirements receive a San Rafael Green Building emblem for construction signage and a window decal and recognition on the City's website.

Projects that achieve at least 100 GreenPoints or a LEED® Gold rating qualify for the following incentives from the City:

- Expedited building permit plan check processing.
- For residential projects, reimbursement of the cost of the GreenPoint Rater services up to \$1,000.
- Provision of a bronze plaque for building mounting, identifying the project as a green building.

### GAINING POLITICAL SUPPORT

In May 2009, Mayor Al Boro requested that other mayors appoint a city council member or planning commissioner to a task force to help develop a model green building ordinance for adoption throughout Marin County.

It is intended that each jurisdiction in Marin will ultimately adopt a similar version of the Model Green Building Ordinance, with local refinement to address the size and scale of development most common in that particular jurisdiction.

Two jurisdictions have adopted the BERST model ordinance (San Rafael and the County of Marin), two more are scheduled to adopt on July 27 (Novato and San Anselmo), and the remainder will consider adoption this fall in conjunction with adoption of the 2010 CA Green Building Code.

It is also expected that, by relying upon common ordinance provisions, building officials will collaborate in the enforcement and future refinement of the green building regulations.

### LEARN MORE

**To learn more about San Rafael's Green Initiatives programs:**

[http://www.cityofsanrafael.org/Government/Community\\_Development/Green\\_Initiatives.htm](http://www.cityofsanrafael.org/Government/Community_Development/Green_Initiatives.htm)

**To obtain a copy of San Rafael's ordinance, handouts or forms:** [www.cityofsanrafael.org/green](http://www.cityofsanrafael.org/green)

# Local Government BEST PRACTICES

## SIMILAR PROGRAMS

### ■ Marin County Green Building

#### Program:

[co.marin.ca.us/depts/CD/main/comdev/advance/Sustainability/greenbuilding/gbuild\\_index.cfm](http://co.marin.ca.us/depts/CD/main/comdev/advance/Sustainability/greenbuilding/gbuild_index.cfm)

### ■ Santa Monica Green Building Program:

[smgov.net/departments/ose/categories/buildgreen.aspx](http://smgov.net/departments/ose/categories/buildgreen.aspx)

### ■ San Diego County Green Building Program:

[co.san-diego.ca.us/dplu/greenbuildings.html](http://co.san-diego.ca.us/dplu/greenbuildings.html)

*Both federal and California utility tax credits and rebates will be available in fall 2010 which utilize the concepts of building performance testing built into the Model Green Building Ordinance provisions.*

*California will be providing Whole House Retrofit programs through the investor-owned utilities' energy efficiency programs, which will also support implementation of the ordinance.*

For more information about this case study:  
Patrick Stoner, Statewide Local Government Energy Efficiency Best Practices Coordinator, [pstoner@lgec.org](mailto:pstoner@lgec.org)

Funded by California utility ratepayers and administered by California's investor owned utilities under the auspices of the California Public Utilities Commission.

## Green Building

*It is intended that each jurisdiction in Marin will ultimately adopt a version of the Model Green Building Ordinance.*

## ADDITIONAL RESOURCES

■ Download a pdf version of the GreenPoint Rated guidelines for a reduced cost from Build It Green's website:

[builditgreen.org/guidelines--checklists/](http://builditgreen.org/guidelines--checklists/)

■ Download a pdf version of the various guidelines and checklists (select the most recent version) from the US Green Building Council's website:

[usgbc.org/DisplayPage.aspx?CMSPageID=222](http://usgbc.org/DisplayPage.aspx?CMSPageID=222)

■ Search for GreenPoint Raters from the Build It Green website:

[builditgreen.org/directorylist/](http://builditgreen.org/directorylist/)

■ Search for LEED® Accredited Professionals from the US Green Building Council's website:

[usgbc.org/LEED/AP/ViewAll.aspx](http://usgbc.org/LEED/AP/ViewAll.aspx)

■ Search for a certified HERS (Home Energy Rating System) rater at:

[californiahersrater.org/multiplayers/findahersrater/findahersratercity.html](http://californiahersrater.org/multiplayers/findahersrater/findahersratercity.html)

■ Search for BPI (Building Performance Institute) certified contractors at:

[bpi.org/tools\\_locator.aspx?associateTypeID=CTR](http://bpi.org/tools_locator.aspx?associateTypeID=CTR)

■ Sample green building best practices, ordinances and community stories:

[www.ca-ilg.org/greenbuilding](http://www.ca-ilg.org/greenbuilding)