

CASE STUDY: SAN FRANCISCO GREEN BUILDING ORDINANCE

1. THE POLICY

Signed into law in August 2008, San Francisco's Green Building Requirements Ordinance was developed from a task force on green building set up by the Office of the Mayor in 2007 to study and develop green building proposals for the City. The policy will impose green building requirements on all newly constructed buildings in the City when it comes into effect in November 2008 (90 days after enactment of the Ordinance).

Based on the recommendations of the task force, the San Francisco Building Code was amended to include the "Green Buildings Requirements Ordinance", as Chapter 13C of the regulations. The requirements of the ordinance will be phased in, taking full effect in 2012. Although implemented within the City's building codes, the policy is considered a green building mandate as opposed to a green building code as its requirements are tied to 3rd party standards which are not governed by San Francisco's own codes. In addition, not all building projects fall under the requirements of the act as its reach is dependent on building size and type.

Commercial Building Requirements

The ordinance requires that all new commercial office buildings over 25,000 sq ft meet the minimum requirements for LEED® certification. In 2009 this requirement will be increased to a LEED Silver rating, further increasing to LEED Gold by 2012. In addition to requiring overall LEED certification, the ordinance mandates that a number of credits must be achieved, on top of the prerequisite credits of the LEED scheme. The credit requirements will be phased in through 2012 and will cover water efficient landscaping, water use reduction, construction debris management, enhanced commissioning and storm water management. (Note that actual certification is not required, see section 4.1.)

Renovation projects of over 25,000 sq ft with significant upgrades to structural, mechanical, electrical or plumbing systems must submit documentation to demonstrate LEED "Certified" Certification is achievable (or has been achieved). From 2010, LEED Silver certification must be achieved and from 2012, LEED Gold. Mid-size office buildings between 5,000 and 25,000 sq ft do not have to meet a LEED rating, but a LEED checklist must be completed. From January 1st 2009, 5 specific LEED credits must be included within that checklist, (none of which pertain directly to energy use) with further increases in credit requirements related to water-efficient landscaping, water-use reduction, construction debris management, and energy use introduced in 2011 and 2012.

Residential Building Requirements

Under the ordinance, high-rise residential buildings (taller than 75 ft) must meet the certification requirements for LEED "Certified", or 50 points under the Green Point rating scheme. After 2009 LEED Silver, or 75 Green Points, must be achieved. In addition to the LEED certification requirements, a number of specific credits must be achieved, in addition to the prerequisite credits of the LEED scheme. As with large commercial buildings, the additional credit requirements will be phased in through 2012. Starting in November 2008, single family and mid-size residential housing must submit a Green Points Checklist; however, there is no minimum points requirement. From January 2009 25 points must be achieved, increasing to 50 points in 2010 and 75 points in 2012.

Projects where demolition is taking place

Where demolition of existing buildings takes place, the number of green rating points (LEED or Green Points) which must be achieved increases by 10% of the *required points total*. Where the demolition is of a historic building, an additional 10% of the *total possible points* (i.e. an additional 7 points for LEED) must be achieved. Significantly increasing the density of the development area reduces the increased number of additional points required.

2. ENERGY EFFICIENCY POTENTIAL

2.1. Policy Uptake

The requirements of the policy are mandatory for all buildings which fall under the building types specified by the ordinance. While San Francisco does not currently have any detailed information on the number of projects

expected to fall under the requirements of the policy, the anecdotal evidence indicates that the policy will encompass the majority of new construction projects in some form, particularly as, unlike the Washington DC Green Building Act, the policy also includes requirements for private residential projects.

2.2. Energy Savings Potential

According to the findings of the Task Force on Green Building for the City and County of San Francisco, the cumulative benefits of the ordinance through 2012 are projected to be: CO₂ emissions will be reduced by 60,000 tons, 220,000 MWh of power will be saved, 100 million gallons of drinking water will be saved, wastewater and storm water will be reduced by 90 million gallons, construction and demolition waste will be reduced by 700 million pounds, the value of recycled materials will be increased by \$200 million, the number of automobile trips will fall by 540,000 and green power generation will be increased by 37,000 MWh. It is recognized by City officials that these are only approximate estimations of the savings the policy will achieve, based on “unscientific” calculations carried out by the City’s Department of Planning.

3. COST OF IMPLEMENTATION

3.1. Program Cost to the City

The City does not have specific data regarding the cost of implementing the policy; however, anecdotal evidence from City staff suggests the additional costs for the program were not unduly high as the policy was integrated into the existing City infrastructure. Biweekly meetings were held by the project committee, comprising seven representatives from the Mayor’s Office, the Department of the Environment, the Department of Building Inspection and the Department of Planning, as well as 10 industry representatives. Training to City staff was provided by the Chief Building Official over the course of a month, regarding the requirements of the act and its impact on building enforcement and policy administration. In addition, three workshops were held by the Department of Human Resources with city staff on the codes requirements. An external consultant was also hired to conduct an energy cost effectiveness study required for approval by the California Energy Commission at a cost of \$12k.

3.2. Cost to the Developer

A number of sources were used by the City to determine the economic impact of the proposed legislation prior to its implementation. Studies in 2004 and 2006 by Davis Langdon showed “that there is no significant difference in average costs for green buildings as compared to non-green buildings”. Anecdotal evidence provided to the City indicated that the cost of achieving LEED certification was unlikely to unduly stretch large City developers as they are already targeting LEED Gold certification at a minimum. The requirements for smaller and medium sized projects (i.e. those less than 25,000 sq ft) are less onerous than for larger commercial developments (initially requiring only a LEED checklist to be completed). Because of this, it was noted by City staff that no significant feedback was received from smaller developers.

According to City officials, the cost to a developer of achieving LEED Gold Certification ranges from 2% to 5% of project hard costs. Matarozzi/Pelsinger Builders puts the additional cost of pursuing LEED Gold Certification at approximately 2.0 to 2.5%.

4. ADMINISTRATIVE FEASIBILITY

4.1. Administering Agency

While the LEED and Green Point rating systems are referenced in the Green Building Ordinance, actual certification is not required. In lieu of a LEED or Green Point application, a 3rd party reviewer will be used to certify that the credits have been met. Reviewers must be licensed design professionals who have been involved with at least 1 LEED certified project. It is hoped that the City will be able to maintain a list of 3rd party reviewers; however, definitive agreement has not yet been reached on the approach that will be taken. Projects where a 3rd party reviewer is used to demonstrate compliance are likely to undergo a higher level of review by the City compared to those which are certified through the USGBC.

The City expects most projects to follow the process to achieve LEED Certification with the USGBC, as anecdotal evidence suggests the majority of large commercial building projects in the City are already striving for LEED Gold Certification. Furthermore, it is unlikely to be financially advantageous to pursue a 3rd party review process,

as the cost of doing so is comparable to that of achieving full certification.

4.2. Ease of Initiation

The Ordinance was developed with input from the Mayor's Green Building Task Force, which was comprised of developers, contractors, consultants and building owners. The majority of policy development was conducted by the Task Force; however, external consultants were contracted to undertake a cost effectiveness study, a requirement of the state of California for any jurisdiction wishing to exceed the state energy policy requirements. In order for the City to demonstrate the cost effectiveness of a policy, it must be shown that the various measures being proposed that exceed state policy requirements will both save energy, as well as provide payback to developers in a reasonable period of time.

Officials at the City believe that the Task Force approach to initiating the policy was crucial in its implementation, as this meant the policy was developed in conjunction with the ultimate practitioners of the policy, thus helping to reduce the likelihood that the policy would have adverse impacts on the stakeholder community. Furthermore, the decision to phase in the policy through 2012 should mitigate its immediate impact on stakeholders. Incorporating stakeholder interests in these ways resulted in little opposition to the policy prior to its implementation.

4.3. Educational Outreach Requirements

As part of the implementation process, the City will be holding at least 16 public training sessions to provide an overview of the policy and its implications on the permitting process. These will largely focus on the administrative requirements, such as the 3rd party review process. Officials at the City recognized that there was already a large LEED Accredited Professional community within the City who would be responsible for assisting new construction projects in achieving compliance. The City also hopes to partner with the USGBC and the Green Building Certification Institute in developing more specialist training sessions aimed at demonstrating how to comply with the technical requirements of meeting each level of LEED certification.

5. STAKEHOLDER IMPACTS

5.1. Acceptability to the Building Community

According to city officials, the task force was crucial to its success, allowing for input from key individuals representing a broad spectrum of the building industry that refined the policy throughout its development. The requirements for introducing new legislation in the City required that the code pass through the Green Building Subcommittee, Code Advisory Committee, and the Building Inspection Commission before final hearings at the County Board of Supervisors which meant that the policy had to undergo significant review before being presented to the City for approval. As part of this process changes included dropping requirements relating to laboratories and low income housing following stakeholder concern that achieving the policies would not be realistic. Ultimately however, the task force process reduced the policy approval time and meant that the draft put forward for implementation was adopted without additional revisions. Officials suggested that stakeholders were most interested in having clarity in the policy requirements, and that areas of vagueness were those most likely to come up against opposition, for example clarification of occupancy classes covered. City officials noted that as most commercial developers in the City were already targeting high levels of LEED certification, additional construction and development costs to meet the requirements of the act would be minimized.

City officials also noted that the task force was conscious of not imposing overly onerous or unachievable requirements on the building community. The phased implementation process which was adopted therefore allows builders and developers time to prepare for each step increase in the policy's requirements. This, along with the task force approach for policy development helped to negate any fundamental concern over the implementation of the act. It was also noted that the 18 month implementation process of the policy helped to create a green building "buzz" which assisted in preparing the industry for the policy's implementation.

6. REFERENCES

Richard Chien, City of San Francisco Private Sector Green Building Coordinator

Dan Pelsinger, Developer, Matarozzi/Pelsinger Builders