

# CASE STUDY: WASHINGTON DC GREEN BUILDING MANDATE

## 1. THE POLICY

Washington DC's Green Building Act of 2006 came into effect in March 2007 for public buildings and private leasing of public property. In implementing the Act, Washington DC became the first city in the US to require privately funded new construction projects to require LEED® compliance to be achieved. The Act was implemented in order to reduce the economic, environmental and social impacts of new buildings in the City and provides an integrated approach to planning, designing, building and maintaining buildings and their landscapes. Between October 1<sup>st</sup> 2007 and October 1<sup>st</sup> 2008, only projects owned or funded by the City were required to meet the green building standards, with additional types of projects phased in until the full implementation of the Act in October 2011.

### **Commercial Buildings**

#### Publicly Owned or Financed Buildings

For new construction where 15% or more of a project's total cost is publicly financed and the project has a gross floor area of 10,000 sq ft or more, the project must be designed to achieve at least 75 points on the EPA national energy performance rating system as determined by the ENERGY STAR® Target Finder tool. Renovation projects are exempt from this requirement. Additionally, all projects must have their energy performance benchmarked annually using the ENERGY STAR Portfolio Manager tool. Non residential projects must also meet the requirements of LEED Silver Certification.

#### Privately Owned Buildings

Beginning on January 1<sup>st</sup> 2009, new construction or refurbishment projects with a floor area of 50,000 sq ft or greater must submit a green building checklist documenting the green building elements to be pursued in the building construction permit. In January 2010 this will be extended to require all projects resulting from sale of public property through deposition to be LEED Certified. From January 2012, all commercial buildings over 50,000 sq ft must be LEED Certified. In addition, incentives in the form of grants are available to projects exceeding the verification requirements of LEED Certified (until 2012) or LEED Silver certification (from 2012 until to 2015).

### **Residential Buildings**

#### Publicly Owned or Financed Buildings

Since October 2007 publicly owned or financed residential buildings of 10,000 sq ft or more have been required to meet or exceed the Green Communities 2006 standard (or a substantially equivalent standard). Green Communities 2006 is national green building program designed by Enterprise Community Partners that provides criteria for the design, development, and operation of affordable housing.

#### Privately Owned Buildings

There are currently no requirements in the Act relating to privately financed residential developments.

### **Certification v Certifiable**

The City requires that projects must follow the LEED certification process, with proof of a building's level of certification provided to the City in the form of a LEED certificate, provided by the USGBC (Green Building Certification Institute from 2009). Green Communities is not rated through a 3<sup>rd</sup> party certification body; therefore compliance must be demonstrated by the project teams themselves.

### **Performance Bond Requirements**

In addition to meeting the mandatory green building standards defined by the Act, privately financed projects must pay a "performance bond" to the City; designed to ensure that a project complied with the performance standards mandated by the Act. If verification that the project has met the requirements of the Act is not provided within two years after the first certificate of occupancy is issued, all or part of the bond is forfeited to the City. The level of the bond is set based on the gross floor area of the building, as follows:

Projects not exceeding 150,000 sq ft Gross Floor Area (GFA):	2% of the total building cost
Projects of between 150,001 and 250,000 sq ft GFA:	3% of the total building cost
Projects exceeding 250,000 sq ft GFA:	4% of the total building cost, capped at \$3MM.

In lieu of a bond, the statute also permits an irrevocable letter of credit from a financial institution authorized to do business in the District or evidence of cash deposited in an escrow account in a financial institution in the District in the name of the licensee and the District. Where all or part of the bond is forfeited to the City, this money will be deposited into the City's "Green Building Fund". Decision has not yet been made on whether monies provided as a bond will be returned with interest, or whether interest will be retained by the City for the Green Building Fund.

## 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; however, the City is currently considering policies for allowing the Act to be waived under special circumstances, for example where a developer is able to prove that meeting the requirements of the mandate will not be economically or technically feasible. Consensus has yet to be agreed on the direction this will take.

According to Zach Dobelbower, Neighborhood Planning Coordinator at the DC Office of Planning, the City does not yet have statistical data on the total number of new construction projects which fall under the requirements of the Act, though this analysis is currently being undertaken. Since the policy does not include new, privately financed residential developments, its scope and potential uptake within new construction is limited.

### 2.2. Energy Savings Potential

As yet, no data has been collected or calculated regarding the possible energy savings of the mandate. However, officials at the DC Office of Planning indicated that this exercise will be undertaken shortly. It was also noted by City officials that the purpose of the mandate is not solely focused on energy savings per se, but rather to encourage a shift towards green building practice as a whole. It should be noted that under LEED-NC 2009, EA Prerequisite 2 will require at least a 10% improvement in energy performance to be achieved, compared to ASHRAE 90.1-2004 minimum standards.

According to Stella Tarnay at the Office of Policy and Sustainability, requirements for commercial buildings to achieve an EPA score (as determined by the ENERGY STAR Target Finder tool) were included within the Act as this requires some performance modeling to be conducted in order to ascertain the level of improvement of a building's energy performance when compared to similar buildings in the Commercial Building Energy Consumption Survey (CBECS). It was felt that in doing this, designers would be required to take a more holistic view of a building's energy performance.

## 3. COST OF IMPLEMENTATION

### 3.1. Program Cost to the City

The policy was developed by a task force of approximately 30-40 members, around 3/4 of which was made up of industry representatives who donated their time to the City. Within the City, three members of staff were dedicated full time to overseeing the development of the Act, with an additional two to three dedicating up to 50% of their time for a period of several months. City officials described the development process as challenging, largely due to the number of City departments who were involved in its development. The City established a green building fee and performance bond to build up a green building fund to finance policy development and implementation, as well as to fund an ongoing education program concerning green building in the region. Therefore net costs to the City are minimized as the program is effectively funded by developers.

### 3.2. Cost to the Developer

Additional costs (though negligible compared to total construction costs), may be borne by developers in the form of additional green permitting fees as follows:

New construction projects	\$0.002 per square foot
Alterations and repairs of between \$1,000 and \$1 million	0.13% of construction value
Alterations and repairs exceeding \$1 million	0.065% of construction value

Developers must also provide a performance bond to the City as outlined in Section 1, returnable in full provided the green building mandates of the act are met. Additional costs may also be incurred by developers in order to design and construct buildings which meet the requirements of the mandate. The City does not have detailed information regarding the policy's impact on construction costs. However City official's best estimations are that construction costs have increased by 2% to 3%.

Staff at GreenHOME, one of the organizations that helped to form and support the Green Building Legislation Task Force, particularly with a view to affordable housing, believe that it is almost impossible to pin down the cost of green building, due to the wide variation in type, size and cost of new construction projects. It was noted that, while it would be possible to cost "spec list substitutions" required for green building design, this did not reflect the actual process, as an integrated design approach is more important to achieving the sustainable goals of a project than simple equipment substitution.

## 4. ADMINISTRATIVE FEASIBILITY

### 4.1. Administering Agency

The policy is administered jointly by the DC Department of the Environment and the Department of Consumer and Regulatory affairs, with assistance from a number of other City departments including the Department of Housing and Community Development and the Office of Policy and Sustainability. The Institute for Market Transformation (IMT), an organization involved in market research, educational outreach, and the creation and coordination of program initiatives for green building and environmental protection in the US was contracted by the City to assist in the development of the code and advise on best practices for code amendments.

The act requires that where requirements for LEED compliance are included, certification must be achieved with the USGBC. ENERGY STAR scores are determined through the externally administered ENERGY STAR Target Finder tool. However, review of the compliance process is subsequently undertaken by the district staff. As Green Communities ratings are not verified by a 3<sup>rd</sup> party certification body, the City expects that additional review of Green Communities scores will take place, though no final decision has been reached of the exact process.

### 4.2. Ease of Initiation

In order to get the code passed by DC government, the Green Building Legislation Task Force was required to coordinate testimony at policy hearings, educate council members on the intricacies of green building design, bring in experts from other cities and gather support from the stakeholder community. Patty Rose, Executive Director at GreenHOME, noted that without having the DC Building Industry Association (DCBIA) 'at the table' when the policy was being developed, the bill would have never been passed in the City. Maribeth DeLorenzo, Washington DC Department of Housing and Community Development, concurred, noting that conducting facilitated meetings with Task Force members provided a critical vehicle for reaching agreement with the building community on some of the more contentious policies within the Act.

In order to reduce the immediate burden on the building industry within the City, the requirements of the code will be phased in over several years. City officials noted that, by doing this stakeholders would have significant time to prepare for each step up in the mandate's requirements, a key requirement in getting the bill signed into law.

### 4.3. Educational Outreach Requirements

By establishing a green building fund alongside the Act, the City established a source of income which will be used, in part, to fund programs to educate members of the construction industry, stakeholder groups, organizations and individuals who want to learn about green building. Both City agencies have conducted outreach work on areas of the Act which fall under their field, making costs difficult to track; however, officials described the requirements as "extensive". A wide range of tools have been used for education and outreach work, including formal training sessions, stakeholder "needs meetings" and neighborhood advisory committees.

## 5. STAKEHOLDER IMPACTS

### 5.1. Acceptability to the Developer

The Green Building Act was developed by the City's Green Building Legislation Task Force. Throughout the development process, the task force used focus groups and facilitated meetings in order to build support and achieve consensus on the requirements of the act for a broad range of stakeholders, including developers, builders, design professionals and environmental and affordable housing communities. According to staff at GreenHOME, lining up support from key stakeholders and the members of the community (in particular the DCBIA) was critical in streamlining the process and ultimately in getting the act passed by City government.

GreenHOME staff noted that the larger "Class A" developers in the City were not resistive to the implementation of the Act as they were already 'on board' with green building, based on the realization that the industry was already moving in that direction. The most resistance came from smaller developers, who were opposed to the perceived increase building costs that the Act would bring about. City officials agreed that there was some initial opposition to the Act from developers concerned with increases in building costs and a lack of green building knowledge capacity, both in the industry and within the City government.

## 6. REFERENCES

Maribeth DeLorenzo, Washington DC Department of Housing and Community Development

Zach Dobelbower, Neighborhood Planning Coordinator at the DC Office of Planning

Patty Rose, Executive Director, GreenHOME

Stella Tarnay, Washington DC Office of Policy and Sustainability