EVALUATING THE USE OF GREEN BUILDING INCENTIVES IN MEMPHIS, TENNESSEE:

RECOMMENDATIONS FOR THE MEMPHIS-SHELBY COUNTY OFFICE OF SUSTAINABILITY

MAY 2012
Acknowledgements

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Executive Summary

With sustainability taking hold as the organizing principle for many urban areas in the U.S., issues such as energy efficiency and green building techniques are more important than ever. Cities across the country have instituted green building programs that rely on a number of different policy mechanisms and regulations to promote a more sustainable built environment. These programs often include mandates for publicly-owned buildings to meet certain energy and design standards as well as incentives to encourage the private development community to build more sustainably. Despite the widespread use of incentives to further energy and building efficiency goals, there has been little research or evaluation on how to design and implement an incentive-based green building program.

This study aims to provide information and recommendations to leaders in Memphis-Shelby County, Tennessee on how to design and implement an incentive-based green building program. The study methodology has three parts: 1) a review of existing literature and research on green building and sustainable development in the U.S.; 2) interviews with developers and other professionals who work in related fields (planning and architecture) in the Memphis area, and; 3) case studies of incentive-based green building programs in select U.S. cities. Although all three research methods were valuable, the interviews provided the most in-depth information on these major themes: the market for green building in the Memphis area, the barriers to completing green building projects, and the best kinds of incentives to help encourage developers to build more sustainably. Based on the results of this methodology, the following recommendations were developed for the Memphis-Shelby County Office of Sustainability as they begin the process of designing an incentive-based green building program.

1) Lead the Way with a Green Building Mandate for Publicly Owned Facilities:
Though not a direct incentive, a formal commitment made by the city and county to require that new facilities and major renovations meet a certain minimum energy efficiency and green design standard will help set an example for the private development community.

2) Coordinate Green Building Incentives with Existing Incentive Programs and Initiatives: The city and county should find ways to integrate green building incentives into existing incentive programs and ensure that new incentives fit in with the goals of these existing programs.

3) Focus on Structural and Marketing Incentives First; Strive to Add Financial Incentives: Structural and marketing incentives require less financial and administrative capacity and should help provide momentum to implement more complex and costly financial incentives later. The most attractive incentives that fit into the structural and marketing categories include: density bonuses, reduced minimum parking requirements, and publicity for green building projects through awards programs or publications.

4) Ensure that Smaller Developers Have Avenues to Participate: Special efforts should be made to ensure that smaller, lower-capacity developers are able to
participate in a green building incentive program. Possibilities include: standards that do not require third party certification or incentives that focus on energy efficiency retrofits for existing buildings.

5) **Focus on Simplicity, Accessibility, and Usability**: These broad goals will not only make the incentives more useful to developers but will also make them easier to implement and administer. Strategies for achieving these goals include: integrating green building incentives into the existing regulatory and permitting framework to streamline the process for developers; continuing to involve developers in the design and implementation phases to get feedback and ensure buy-in; considering working with developers to test the impact and usefulness of the incentives by working them through actual development deals.

6) **Complement with Ongoing Efforts Related to Green Building & Sustainable Development**: Green building incentives will be most effective when paired with planning efforts focused on creating more sustainable development patterns and encouraging economically robust and resilient neighborhoods. Regional coordination and collaboration are crucial to this process.
Introduction

In cities across the United States, political officials, community leaders, and residents are increasingly embracing sustainability as the organizing principle for all aspects of urban development. Although poor economic conditions have pushed cities to focus on sustainable economic development and job creation as of late, the sustainability movement has influenced many other issues, ranging from transportation systems that offer more options for non-motorized travel and mass transit to growth management techniques that encourage infill and compact development close to existing infrastructure and public facilities. To formalize this commitment, many U.S. cities have developed new planning documents that address specific goals, objectives, programs, and policies related to sustainability. With places as different as El Paso, Texas, Northampton, Massachusetts, and New York City adopting these kinds of plans, sustainability is clearly on the rise in U.S. cities.

As part of this movement, advocates over the last two decades have increasingly emphasized the need to take a closer look at how buildings can contribute to sustainability goals. The U.S. Environmental Protection Agency (EPA) estimates that buildings account for approximately 40% of U.S. energy use, 40% of U.S. greenhouse gas emissions, and 10% of U.S. freshwater use (U.S. EPA, 2008). Taking into account related issues such as building placement and siting – i.e. buildings that are located in greenfields where driving is the only transportation option – these figures could be even higher. These dramatic numbers clearly show the potential that building efficiency improvements could have in advancing sustainability goals such as reduced energy use and reduced greenhouse gases.

Although the U.S. Green Building Council has been the main force behind the national green building agenda, individual cities have started to design their own unique green building programs as a way to advance sustainable development goals. While Austin, Seattle, and Portland were some of the first cities to develop green building programs, other cities have gotten in on the game, ranging from larger cities such as Chicago and Atlanta to smaller cities such as Asheville, NC and Grand Rapids, Michigan. These local programs come in a variety of shapes and sizes depending on the particular political, social, and environmental context and administrative capacity. Despite these differences, most of these programs utilize a mixture of regulations and incentives to encourage more sustainable building practices. Although these kinds of local programs have expanded rapidly over the last decade or so, there seems to be little evaluation or research on their impact and effectiveness. In particular, it is unclear how incentives for these programs are developed and implemented. What is the process for designing these incentives and what steps are involved to ensure successful implementation? Depending on the local context, which incentives are most effective? Do incentives really work to encourage the private development community to build more sustainable projects?

In looking at these questions, this study aims to provide information and recommendations to leaders in Memphis-Shelby County, Tennessee on how to design and implement an incentive-based green building program. The methodology of this study involves interviews with private developers and other leaders involved in real estate development in the Memphis area as well as case studies of incentive-based green building programs in other U.S. cities. The first section provides background information on the sustainability movement in Memphis-Shelby County and outlines the
This section also looks at the existing literature and research on green building and municipal green building programs in the United States. The second section presents the results of the developer interviews and offers a summation of the major themes, opinions, and recommendations. The third section presents the green building program case studies. The fourth and final section lays out a list of recommendations for the planning staff and political leaders in Memphis-Shelby County on the best use of incentives in a local green building program.
I. Background Information and Literature Review

Sustainability Movement in Memphis

In 2008, the city of Memphis and Shelby County, Tennessee began the formal process of devising sustainability goals and policies for the area which culminated in the creation of the Sustainable Shelby Implementation Plan. Looking at a wide range of issues, the plan focuses on the three legs of sustainability – equity, environment, and economy – and includes an extensive set of concrete implementation actions. In addition, the plan incorporates a substantial public education and awareness component as well as a section devoted completely to internal actions that local government agencies can take in their operations to “lead by example” in achieving sustainability goals.

To begin the process of implementing the 151 total strategies included in the plan, the city and county created the Office of Sustainability in April 2011. Although the office is tasked with implementing all 151 strategies, a short-term work plan identifies several key strategies from each section of the larger plan that will help lay the foundation for sustainability initiatives throughout the region. As part of the “A Leader for Green Buildings” subcategory under the “Great Neighborhoods for a Great Community” section, this paper specifically addresses short term strategy 2.7.6 which states: “Survey local developers about what incentives would be most effective in creating more sustainable projects and study major metro areas to learn how they exceed their local standards for sustainable design.” This particular strategy goes hand in hand with several other short term tasks, including the formation of a green building task force to recommend green updates to the existing building code (2.2.25) and the development of a public education campaign focused on raising awareness of the true costs of green building and infrastructure (2.7.4).

In addition to these overarching planning efforts and framework, a number of other major initiatives related to sustainability have recently been implemented and – perhaps most importantly – have attracted quite a bit of public attention. These efforts include the completion of the 7-mile Shelby Farms Greenline in 2010, the hiring of the city’s first bicycle-pedestrian coordinator, continued progress toward the city mayor’s goal of creating fifty-five miles of bicycle lanes in the city by summer 2012, and the city’s participation in the national EV (electric vehicle) project.

There are also a handful of green building incentives and initiatives already in place in Memphis and Shelby County. The Downtown Memphis Commission (formerly the Center City Commission) added a green building incentive to its Payment in Lieu of Taxes (PILOT) program three years ago. This PILOT program aims to encourage development and redevelopment projects in the downtown

Figure 1. Sustainable Shelby Plan, Cover Page

Source: www.sustainableshelby.com
and central core of the city by offering tax abatements to qualifying projects that meet community goals. PILOT projects that attain LEED certification are eligible for a two-year extension of the tax abatement.

Memphis Light Gas and Water (MLGW), the city’s public utility, also offers various weatherization and energy-efficiency improvement programs for property owners. In addition, MLGW provides grant money through the city’s USGBC chapter for LEED-New Construction certified projects that exceed basic requirements for energy and water efficiency. Finally, MLGW has developed the EcoBUILD program for new residential buildings that ensures construction exceeding the minimum efficiency levels of the local building code.

Memphis Demographic and Economic Characteristics

Any public policy – whether focused on green building, economic development, or public health – must be responsive and tailored to the particular context in which it is being proposed. To get a better sense of the Memphis metropolitan context, this section will examine some of the basic demographic and economic characteristics of the area.

**Demographics**

Based on the 2010 U.S. Census, Memphis is the 20th largest city in the country while the Memphis TN-MS-AR Metropolitan Statistical Area (MSA) ranks 41st nationwide. Population growth over the last 30 years, however, has been relatively modest, with the city showing a slight decrease in population from 2000 to 2010 (see Table 1). Most growth has been in DeSoto County, MS and in areas of Shelby County outside of the city. These numbers highlight some of the challenges that the city in particular faces in retaining and attracting residents and companies and encouraging redevelopment.

<table>
<thead>
<tr>
<th>Year</th>
<th>Memphis</th>
<th>Memphis TN-AR-MS MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>610,337</td>
<td>863,900</td>
</tr>
<tr>
<td>2000</td>
<td>650,100</td>
<td>1,135,600</td>
</tr>
<tr>
<td>2010</td>
<td>646,900</td>
<td>1,316,100</td>
</tr>
<tr>
<td></td>
<td>+ 6%</td>
<td>+ 52%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

<table>
<thead>
<tr>
<th>Race and ethnicity</th>
<th>Memphis</th>
<th>% Total</th>
<th>Memphis TN-AR-MS MSA</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>190,100</td>
<td>30%</td>
<td>630,700</td>
<td>48%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>410,000</td>
<td>63%</td>
<td>601,000</td>
<td>46%</td>
</tr>
<tr>
<td>Asian</td>
<td>10,100</td>
<td>2%</td>
<td>24,500</td>
<td>2%</td>
</tr>
<tr>
<td>Hispanic or Latino (of any race)</td>
<td>42,000</td>
<td>6%</td>
<td>65,400</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

Looking at race and ethnicity, the city and the metropolitan area show stark differences in terms of white and black population figures. While the city is majority black by a 2 to 1 measure, the metro area as a whole is almost evenly matched (see Table 2). Although these numbers demonstrate some of the traditional
racial divisions in the area, they also show how unique the area is in that the MSA will likely soon be one of the few majority African-American metro areas in the country.

Poverty has been a long-standing issue in the Memphis area. While Table 3 shows the fluctuations in the percentage of residents below the poverty line over the last thirty years, both the city and the MSA have had consistently high poverty rates. The 2010 numbers make the Memphis MSA the poorest metropolitan area with over one million people in the country ahead of New Orleans (17.4%), Miami-Fort Lauderdale (17.1%), and Birmingham, AL (17%) (Charlier, 2011).

Table 3. Percent of residents below the poverty line, 1990-2010

<table>
<thead>
<tr>
<th></th>
<th>Memphis</th>
<th>Memphis TN-AR-MS MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>23.0%</td>
<td>18.4%</td>
</tr>
<tr>
<td>2000</td>
<td>20.6%</td>
<td>15.3%</td>
</tr>
<tr>
<td>2010</td>
<td>26.5%</td>
<td>19.1%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

In terms of age of residents, the city and the MSA are fairly comparable, with percentages largely unchanged from 2000 to 2010 (see Table 4). Compared to other cities in Tennessee (Nashville and Knoxville) and other peer cities in the country (Austin, Raleigh, and Louisville), the city and the Memphis MSA have a higher proportion of residents 18 and under and a lower proportion of residents 65 and over. However, the 2010 Census figures show a slight decrease in the percentage of residents under 18, and a slight increase in residents between 18 and 64. These trends could have important implications for development patterns and housing choices as more baby boomers move into the 65 and over category in the coming years.

While the city and the MSA have comparable levels of educational attainment, the two differ drastically when looking at median income and housing tenure (see Tables 5-7). Again, these numbers paint a picture of a relatively poor city surrounded by wealthier, higher-growth areas.

Table 4. Age group proportions, 2000 and 2010

<table>
<thead>
<tr>
<th></th>
<th>Memphis</th>
<th>Memphis TN-AR-MS MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2010</td>
</tr>
<tr>
<td>Under 5 years</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Under 18 years</td>
<td>28%</td>
<td>26%</td>
</tr>
<tr>
<td>18 - 64 years</td>
<td>61%</td>
<td>64%</td>
</tr>
<tr>
<td>65 years +</td>
<td>11%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

Table 5. Median household income, 2010

<table>
<thead>
<tr>
<th></th>
<th>Memphis</th>
<th>Memphis TN-AR-MS MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$37,000</td>
<td>$45,400</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

Table 6. Median household income, 2010

<table>
<thead>
<tr>
<th></th>
<th>Memphis</th>
<th>Memphis TN-AR-MS MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner-occupied housing units</td>
<td>52%</td>
<td>64%</td>
</tr>
<tr>
<td>Renter-occupied housing units</td>
<td>48%</td>
<td>36%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau
**Economic Characteristics**

Historically serving as a hub for agricultural commerce and trade, Memphis continues to function as an important center for goods movement, distribution, and logistics. Freight and logistics companies have a large presence in the city, and FedEx, which is headquartered in Memphis, is the MSA’s largest employer. Other important industries include biomedical research and medical device manufacturing, education and health services, and professional and business services.

In terms of unemployment, the Memphis area has largely mirrored national trends over the last decade, with relatively low rates in the late 1990s and early 2000s and increases in 2004 and in 2007 as a result of the economic recession (see Figure 2).

**Table 7. Educational attainment, 2010**

<table>
<thead>
<tr>
<th>Population 25 years and over</th>
<th>Memphis</th>
<th>Memphis TN-AR-MS MSA</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School graduate or higher</td>
<td>339,200</td>
<td>83%</td>
</tr>
<tr>
<td>Bachelor’s degree or higher</td>
<td>93,800</td>
<td>23%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau

**Figure 2. Annual unemployment rate comparison, 2000-2010**

Local Area Unemployment Statistics

Annual Unemployment Rates

2000-2010

Source: Bureau of Labor Statistics: Local Area Unemployment Statistics (LAUS)

Source: Greater Memphis Chamber and Memphis Light, Gas, & Water; data from the Bureau of Labor Statistics
Although the city, MSA, and county have followed similar trajectories in terms of unemployment over the last decade, it is apparent that the city has not performed as well comparatively in terms of actual rates. This difference reflects some of the economic divisions between the city and the region, as much of the growth and development in population and employment has moved outward.

In terms of cost of living, the Memphis MSA performs well as compared to other peer or comparable cities in the country (see Table 8). Housing, utilities, and transportation are three areas where Memphis especially excels as related to cost. Although this low cost of living is certainly a positive thing for many area residents, the fact that these numbers are so low – especially in terms of housing – seems to be a reflection of the area's lower rates of growth and development.

<table>
<thead>
<tr>
<th>Metro Area</th>
<th>Composite</th>
<th>Grocery</th>
<th>Housing</th>
<th>Utilities</th>
<th>Transportation</th>
<th>Healthcare</th>
<th>Misc. Goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richmond, VA</td>
<td>100.1</td>
<td>104.4</td>
<td>95.1</td>
<td>108.5</td>
<td>101.9</td>
<td>108.8</td>
<td>98.3</td>
</tr>
<tr>
<td>Little Rock, AR</td>
<td>95.7</td>
<td>94.4</td>
<td>89.1</td>
<td>105.3</td>
<td>95.0</td>
<td>91.0</td>
<td>99.8</td>
</tr>
<tr>
<td>Pittsburgh, PA</td>
<td>94.8</td>
<td>104.8</td>
<td>76.7</td>
<td>100.6</td>
<td>111.2</td>
<td>93.9</td>
<td>99.6</td>
</tr>
<tr>
<td>Raleigh, NC</td>
<td>93.8</td>
<td>101.3</td>
<td>79.7</td>
<td>104.5</td>
<td>96.6</td>
<td>100.5</td>
<td>97.8</td>
</tr>
<tr>
<td>Louisville, KY</td>
<td>91.7</td>
<td>87.9</td>
<td>83.4</td>
<td>102.3</td>
<td>98.9</td>
<td>87.5</td>
<td>95.5</td>
</tr>
<tr>
<td>St. Louis, MO</td>
<td>91.1</td>
<td>95.1</td>
<td>75.3</td>
<td>104.4</td>
<td>98.3</td>
<td>98.9</td>
<td>95.6</td>
</tr>
<tr>
<td>Nashville, TN</td>
<td>90.2</td>
<td>97.4</td>
<td>70.4</td>
<td>87.1</td>
<td>93.4</td>
<td>91.8</td>
<td>104.5</td>
</tr>
<tr>
<td>Memphis, TN</td>
<td>85.9</td>
<td>91.3</td>
<td>72.4</td>
<td>88.2</td>
<td>93.2</td>
<td>99.3</td>
<td>90.6</td>
</tr>
</tbody>
</table>

| Weighting Factor | 100% | 13% | 30% | 10% | 10% | 4% | 33% |

Table 8. Cost of living index for Memphis and comparable metro areas, 2011

Average for U.S. metro areas = 100

Looking at the demographic and economic characteristics of the Memphis area, several key issues stand out. Challenges include: poverty; disparities between the city and the rest of the MSA in terms of population growth, poverty, employment, and income; lower rates of college-educated residents as compared to other metro areas; and shifts in age group proportions as the number of residents over 65 appears to be growing. Despite these and other challenges (public school system restructuring, negative perceptions of crime and safety within the city, municipal deficits), the Memphis region has a number of attributes in its favor, from its location to its low cost of living to its diversity. Coupled with the area’s growing sustainability movement and the push to create more livable and economically robust and resilient neighborhoods, there is certainly momentum toward addressing these long-standing issues and building on the region's positive natural, cultural, and economic features.

**Existing Research on Green Building**

Most of the literature on green building falls into three broad categories: technical design and engineering guides, research evaluating the costs and benefits of green building, and research on how to develop and integrate public policy related to green building, including municipal green building programs. The following literature review will focus on the latter two categories.
Cost-Benefit Evaluation
In terms of evaluation, Gregory Kats (2010) provides a thorough examination of the various costs and benefits connected to sustainable development. Moving from the building level up to the community and national levels, Kats presents both quantitative and qualitative analyses of these topics. Although his work addresses a range of issues – from construction costs and energy use savings to health and productivity benefits and financial and social impacts – Kats concludes that the benefits from green building and green community design (reduced energy use and CO₂ emissions, improved air quality and employee productivity, public health benefits, etc.) greatly outweigh the average 2% cost increase that comes along with green building construction.

A number of publications examine the costs and benefits of green buildings specifically from the perspective of developers. Although there is not a huge body of work on this topic, most research indicates that construction cost increases for green buildings (usually defined as LEED or Energy Star) are generally lower than perceived and are on average approximately 1-2% higher than conventional buildings (Morris, 2007; Kats, 2010; Morris and Matthiessen, 2007; Steven Winter Associates, 2004). Other studies have found that operating costs are generally lower, and rental rates and sales prices per square foot are generally higher (Miller, Spivey, and Florance, 2008; Kats, 2010; Bartlett and Howard, 2000).

Green Building Policy and Planning
Over the last 10-15 years, an increasing number of academics and planning professionals have produced research on green building policy, planning, and implementation. While there is some work on green building planning and policy on the state and federal levels (May and Koski, 2007; Retzlaff, 2010; Jacobs, Kelly, Sobolewski, 2007), the more successful implementation of local green building policies and programs has resulted in a larger amount of research at this level.

In terms of local green building policy, topics range from the evaluation of green building codes to examinations of the process of how green building programs and policies are adopted. Shapiro (2011) looks specifically at the limitations of green building construction codes and recommends 1) that planners and officials take an active role in ensuring standards meet local needs and requirements, and 2) that planners and officials should not rely solely on green building codes to fulfill sustainability goals, but should also look at the impact of improving the sustainability of other development management plans (stormwater, waste management, zoning code, etc.). Van Schaack and BenDor’s (2011) study of green building programs in North Carolina provides a number of key observations for transition areas, including: the impact of visible municipal green building projects in building capacity and support; the importance of market-based strategies in getting green projects off the ground; and the need for education and outreach to help start the institutionalization of green building practices.

Retzlaff (2008; 2009) looks specifically at the relationship between planners and green building practices and programs. She argues for planners to take a more active role in evaluating and analyzing green building assessment systems and programs. In particular, Retzlaff (2009) sees planners playing an important role in formulating green building policy, helping developers overcome some of the financial barriers to green building, making sure that existing buildings and neighborhoods remain in the conversation for green building programs, and in tying green building
to infrastructure and land development plans.

Sentman, Del Percio, and Koerner (2008) outline three broad types of local green building legislation: green building mandates for public construction (i.e. municipal buildings), green building incentives for private construction, and green building mandates for private construction. Although the authors seem to view green building incentives for private development as a transitional phase between mandates for public construction and mandates for private construction, they do acknowledge that flexibility is key in encouraging green building practices and no single type of legislation is perfect. The authors also outline some of the basic types of incentives used in local green building policies, including expedited permitting, density bonuses, tax credits, and reduced permit fees. This article is particularly useful for its discussion of the use of third-party green building verification systems in granting incentives at the local level. The LEED rating system seems to be by far the most common third-party verification system used for determining qualifications for local incentives, although the authors do offer up some alternative standards used on the local level in places like Issaquah, WA and Calabasas, CA. The use of third-party verification systems can perhaps bring up legal issues, particularly when tied to meeting regulatory standards under building codes.

Green Building Programs and Assessment
A number of resources provide case studies of local green building programs (USGBC, 2011; National Association of Industrial and Office Properties Research Foundation, 2007; Portney, 2003; Wenz, 2008; Rainwater, 2007; Rainwater, 2009; Rainwater and Lang, 2012). In particular, Brooks Rainwater’s studies for the American Institute of Architects’ Local Leaders in Sustainability series (2007; 2009; 2012) present a comprehensive overview of local green building programs around the country and their evolution over time. Important facts from these reports include: over 138 U.S. cities have green building programs, approximately 41% are located in the western states (the vast majority in California), and most green building programs have their own unique design, features, and tools to better match the local context. In each report, Rainwater identifies case study communities whose green building programs can offer lessons to other cities. Although the most recent report (March 2012) attempts to identify some basic best practices on how to design and implement municipal green building programs, there does not seem to be much research that specifically evaluates the effectiveness of these programs. The relatively short history of these initiatives may help explain this lack of material.

Lucia Athens’s (2010) publication, Building an Emerald City: A Guide to Creating Green Building Policies and Programs, serves as a how-to manual for municipalities considering the creation of green building programs. Important topics include: how to build support for green building initiatives, how to foster change and innovation in markets and key organizations, best practices for developing policies for public green buildings, green building program services, green building codes and incentives, and measuring program impacts.

As mentioned above, green building programs in the U.S. come in many different shapes and sizes (see Table 9). Some cities require only publicly-funded building projects to follow certain green standards (typically a specific level of LEED), while on the other end of the spectrum San Francisco requires all new construction and major renovations to meet green standards. Most green building
programs, however, focus on offering incentives to encourage private developers to build greener projects or to encourage property owners to improve energy efficiency. Many programs also contain a mix of both public building mandates and incentives for private developers and property owners.

<table>
<thead>
<tr>
<th>Type</th>
<th>Use</th>
<th>Where Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandates for Public Buildings</td>
<td>Common</td>
<td>San Diego; Washington DC; Atlanta; Chicago; Minneapolis; Kansas City; Austin; Milwaukee; Nashville; Durham, NC; Fayetteville, AR; Denver, CO; Baltimore; Asheville, NC; Cincinnati; Pittsburgh</td>
</tr>
<tr>
<td>Incentives for Private Development</td>
<td>Common</td>
<td>Los Angeles; San Diego; Jacksonville, FL; Chattanooga; Nashville; Pittsburgh; Chicago; Louisville; Philadelphia; Portland, OR; Cincinnati; Louisville</td>
</tr>
<tr>
<td>Mandates for all New Development</td>
<td>Rare</td>
<td>San Francisco</td>
</tr>
</tbody>
</table>

Green Building Incentives
Looking more specifically at research on green building incentives, the commercial development industry has been involved in outlining the use of local incentives across the country and providing recommendations for action to developers and real estate professionals. The National Association of Industrial and Office Properties Research Foundation commissioned a study in 2007 (NAIOP, 2007) that serves as a basic primer on local green building incentives. Specifically, the study completed a survey of developers, architects, and municipal government officials to learn more about the extent and impact of local green building incentives. This research proved useful in my preparation of questions for the developer interviews.

In addition, the USGBC offers quite a bit of information on local policy, incentives, and the promotion of green building practices. The State and Local Policy page of the USGBC website (USGBC, 2011) contains a number of resources for policy makers. The Green Building Incentive Strategies sheet lays out broad categories of incentives, including structural incentives (expedited review/permitting processes, density and height bonuses), financial incentives (tax credits, fee reduction/waiver, grants, revolving loan funds), and other incentives (technical and marketing assistance). Table 10 presents an overview of the major green building incentives used in U.S. cities. This chart was adapted from the AIA publication Local Leaders in Sustainability: Green Building Incentive Trends (March 2012). Although the incentive categories listed in this table differ slightly.
from the USGBC’s categories, the land use change and government process improvement categories roughly correspond to the USGBC’s structural incentives category.

Table 10. Local green building incentives by type

<table>
<thead>
<tr>
<th>Type</th>
<th>Incentive</th>
<th>Where Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use Changes</td>
<td>Floor Area Ratio (FAR) &amp; Density Bonuses</td>
<td>Miami; Arlington County, VA; Seattle; Nashville</td>
</tr>
<tr>
<td></td>
<td>Transfer of Development Rights (TDR)</td>
<td>Carroll County, MD</td>
</tr>
<tr>
<td></td>
<td>Planned Unit Developments (PUD)</td>
<td>Bothell, WA; Austin, TX; Potential in many municipalities</td>
</tr>
<tr>
<td></td>
<td>Reduction in Parking Requirements</td>
<td>Hamilton, OH; Bothell, WA</td>
</tr>
<tr>
<td>Government Process Improvement</td>
<td>Expedited Review &amp; Permitting</td>
<td>Jacksonville, FL; Chicago; Scottsdale, AZ; Seattle</td>
</tr>
<tr>
<td></td>
<td>Priority Inspections</td>
<td>Santa Barbara County, CA; San Bernardino County, CA</td>
</tr>
<tr>
<td></td>
<td>Technical Assistance</td>
<td>Arlington County, VA</td>
</tr>
<tr>
<td>Education &amp; Marketing</td>
<td>Publicity and Awards</td>
<td>Chicago</td>
</tr>
<tr>
<td>Financial</td>
<td>Energy Efficiency Rebates</td>
<td>Seattle; Los Angeles; Chapel Hill, NC; Atlanta</td>
</tr>
<tr>
<td></td>
<td>Fee Reductions or Waivers</td>
<td>Chicago; Indianapolis; San Antonio</td>
</tr>
<tr>
<td></td>
<td>Grants</td>
<td>Santa Monica, CA; King County, WA; Detroit; El Paso, TX</td>
</tr>
<tr>
<td></td>
<td>Revolving Loan Funds</td>
<td>Athens-Clarke County, GA</td>
</tr>
<tr>
<td></td>
<td>Tax Abatements</td>
<td>Cincinnati</td>
</tr>
<tr>
<td></td>
<td>Property or Sales Tax Rebates</td>
<td>Montgomery County, MD</td>
</tr>
<tr>
<td></td>
<td>Property Assessed Clean Energy (PACE)</td>
<td>Sonoma County, CA</td>
</tr>
</tbody>
</table>

Adapted from Local Leaders in Sustainability: Green Building Incentive Trends (March 2012), published by the American Institute of Architects (AIA) and the National Association of Counties (NACO)
II. Interviews

Turning now to the Memphis-Shelby County context, this section describes the results from interviews carried out with private developers and other professionals in the area who work in related fields. Fourteen total interviews were completed over the course of the study. Eleven of these interviews were with private developers who specialize in a variety of building types (residential, commercial, industrial, mixed use) and business models (brokerage, land development, consulting, subsidized housing). Three of the interviews were with professionals who work for organizations that are strongly tied to the development industry (one architect specializing in green building, one planner who works for a central city development agency, and one planner who works for a real estate development education and advocacy non-profit).

The majority of the developers work for firms based in Memphis with the rest representing national and international development and property management companies that have completed significant projects in the Memphis area. Two of the non-Memphis-based developers specialize in large, mixed-income residential, and mixed-use projects and also engage in property management. The final non-Memphis-based firm specializes in commercial development and property management worldwide.

The Memphis-based developers also differ in terms of their firms’ size, experience, and expertise. While some of the developers are with large firms that have been working in the Memphis area for over sixty years, have a large portfolio of projects and holdings, and specialize in a range of property types, others work for smaller firms that specialize in downtown redevelopment, economic development consulting, or commercial brokerage in the central city. Despite these differences, the developers all have some kind of experience on projects within the urban core. Table 11 provides a brief profile and comparison of all the developers interviewed for this report.
Methods
The Office of Sustainability staff developed an initial list of interviewees for the study whom they felt would provide a cross-section of development industry knowledge, experience, and opinions. As the study progressed, other professionals involved in the architecture, real estate, and planning fields were added to the interviewee list to provide additional perspectives. While different methods were considered for this part of the study, individual telephone interviews seemed to provide the greatest flexibility and opportunity to obtain more detailed and qualitative information.

For the most part, the interviewees were asked a standard set of questions (see Appendix A), although question sets were sometimes modified to take advantage of the interviewees’ unique knowledge and experience. The interviews focused on gathering information on the following topics: 1) the developers/professionals’ experience with green building, 2) their sense of the Memphis market and the demand for green building, 3) the particular barriers that Memphis faces in implementing

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Table 11. Profile of developers

<table>
<thead>
<tr>
<th>Property Type</th>
<th>Residential</th>
<th>Commercial/Office</th>
<th>Industrial</th>
<th>Mixed-Use</th>
<th>Mixed Income/HOPE VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Estate Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Brokerage</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Management</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Green Building Experience</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>LEED</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Energy Star</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enterprise Green Communities</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EcoBUILD (Memphis Light, Gas &amp; Water)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Headquarters/Location</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Based in Memphis</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Based outside of Memphis</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

---
an incentive-based green building program, and 4) ideas on incentives that would work well in stimulating more green building in the area. The following discussion will look at these four general topics and provide a summary of the opinions and ideas culled from these interviews.

**Green Building Experience**
Many of the developers have some experience with green building and sustainable development practices, although not all of this experience comes from completing projects that are certified under a formal building assessment system such as LEED. The majority of developers commented on their commitment to do what they could to integrate energy-efficient materials and design into their projects – from HVAC systems to roof insulation to appliances - simply as a matter of smart business practice. For the most part, the developers who work with larger, higher-capacity firms have more experience with completing LEED, Energy Star, or Enterprise Green Communities certified projects.

Looking specifically at opinions on LEED, many seem to feel that LEED certification is simply a “stamp of approval” on building practices they already follow. In addition, the registration, documentation, and certification fees involved with LEED are cost-prohibitive for many of their projects. Many of the developers also view LEED as more of a marketing tool than something that would actually help them build greener. Questioned about whether a potential green building program in Memphis should use LEED or some other assessment system as a benchmark, most agree that LEED is probably the best choice since it is an established, third-party verification system that has recognition on a national scale. In particular, most of the developers do not think that a green building assessment should be created specifically for the Memphis-Shelby County area; many think this option would be administratively infeasible in terms of development, implementation, and monitoring as well as confusing for developers who may be more familiar with established systems such as LEED or Energy Star.

There were, however, some differences of opinion on this issue. Many of the smaller developers are less inclined to support LEED certification as a baseline for an incentive program due to the lack of demand from their client base and the burden of documentation costs. In addition, most of the Memphis-based residential developers are also less inclined to back LEED as the building assessment standard. The architect interviewed for this study voiced support for a more personalized and tailored program so long as it is well-designed and meets certain goals and standards. In his own words, “It would be just as useful for a city to come up with its own program or criteria as long as it is vetted by knowledgeable people in the community and they can demonstrate measurable changes from its implementation. It could even present some interesting and effective marketing opportunities.”

These differences could signal the need for separate incentive standards based on use and size of the building. There may also be opportunities to devise some simple standards based on LEED or other building assessment systems that could help get the same results without the same certification costs.

**Market and Demand for Green Building**
In terms of demand for green building products in the Memphis area, the interviewees provided
encouraging but qualified responses. Although most of the interviewees perceive the market for green building to be on the rise in Memphis, they also see uneven demand in terms of different building sectors and types of clients. Demand is stronger in the office and commercial sectors, particularly for national corporations and non-profits. In addition, tenants in certain fields – like biomedical research and development – are often looking to move into buildings that incorporate a certain level of sustainable building practices. Demand in the residential sector is perceived as much more tenuous. Although one of the developers who has completed several residential projects in downtown Memphis observed that there is a general trend toward looking for smaller, more efficient living spaces, there has not been a wholesale shift in demand. Several other developers mentioned the low demand for green building products in the rental apartment market.

Although many of the interviewees see an increase in demand for energy-efficient buildings, they did note that the Memphis area seems to be lagging behind many other cities in the U.S. To explore the reasons behind this weaker market, the next section will take a look at the interviewees’ ideas on why green building development has not taken off in Memphis-Shelby County.

**Barriers**

The most frequently cited barrier to green building is related to the bottom line: how to match upfront costs with operating expenses and expected returns. Since this is the most basic concern for real estate development in general, it’s no surprise that it would also come up in discussions on green building development.

The interviewees mentioned two important characteristics of the Memphis market that magnify these cost/return considerations. First, the Memphis area has relatively low rental rates as compared to many other cities in the country. While these low rates are likely the result of a number of different factors (area income, building stock, oversupply of building options, energy prices), they can make it especially tricky to get the numbers to work for a development that incorporates a higher level of green building features. With the extra upfront costs that green features may incur – especially in terms of LEED or other third-party documentation costs – it is often necessary to raise rental rates to make sure that the project can cover operating costs and provide a return to developers and investors. If demand turns out to be lower than expected and there are plenty of lower-priced products in the market, it will be difficult to lease or sell the space.

Second, the area also has relatively low energy prices and utility rates due to its location in a Tennessee Valley Authority (TVA) district. These low rates create difficulties on two fronts: tenants/residents are likely less sensitive to the savings that green products may offer in terms of energy efficiency, and developers have less incentive to incorporate energy-efficiency features since the payback will be over a longer period of time. Although the barrier posed by low utility rates was a frequent refrain, one of the interviewees offered an alternative way of looking at this situation. While energy prices may seem low, they are higher than they were 10 years ago, and prices are only going to go up in the future. In his view, energy prices are eventually going to get to a point where they are a major cost issue for developers, businesses and residents alike – even in Memphis-Shelby County. Although it may be difficult, taking the long-term view on utility prices will be beneficial. Another frequently mentioned barrier relates to the redevelopment of existing buildings. In particular, the developers who specialize in rehabilitation of historic buildings brought this up as
a major concern. For the most part, these concerns centered around persistent conflicts between historic preservation requirements and energy efficiency needs. Although this kind of conflict will probably have to be addressed at a higher national level (National Register for Historic Places requirements and LEED requirements), it is important to keep this kind of barrier in mind when designing a municipal green building program. In addition to historic preservation requirements, one developer mentioned that seismic requirements for buildings in the Memphis area also make green retrofitting more challenging. Although only one developer brought up this issue, it is probably a good idea to explore how the area’s seismic requirements relate to green building features to see what kinds of conflicts or inconsistencies exist. Since reuse of existing resources and buildings is a vital part of sustainability, municipal programs should be cognizant of potential conflicts and include provisions to facilitate redevelopment and rehabilitation whenever possible.

Another important barrier cited during the interviews deals with shortcomings in the planning and regulatory regime in the Memphis area. While most of the developers do not feel that the building code itself is an impediment to green building and sustainable development practices (incorporating greywater reuse systems in buildings was one exception), there is a general sense that code enforcement could be improved to help ensure that the majority of existing building stock meets a certain base level of energy efficiency. In addition, one developer brought up the fact that there seems to be a disconnect between various initiatives and incentives that the city and county use to attempt to shape development. There are programs and incentives for economic development, sustainability measures, and energy efficiency, but they don’t necessarily work together and governmental efforts to implement and connect these programs seem to be lacking.

The final category of barriers relates to overarching issues that the area as a whole faces in terms of market characteristics and land use management. Several interviewees mentioned that the lack of demand for green buildings and sustainable development is largely due to the lack of demand for new development period in the city of Memphis. As one developer put it, the Memphis development market is not nearly as dynamic as many other U.S. cities. One of the interviewees attributed this lack of dynamism to stagnant population growth and other issues that developers do not see themselves as having much control over, primarily crime and education.

Another developer cited the macro issues that the Memphis area faces in creating more sustainable land use patterns. In his view, there is nothing to disincentivize sprawl and unsustainable land use practices. Similar to many other metro areas around the country, the permitting and zoning processes in Memphis do not assign impact costs to developers who stretch out municipal infrastructure. Although Memphis may not be unique in this respect, the city’s location right next to two different state borders (Mississippi and Arkansas) makes land use management and smart growth particularly challenging. Since issues such as economic development, taxation, infrastructure, and transit require regional coordination, it’s difficult to carry out this coordination with three state governments and multiple municipalities involved in the process. As one developer put it, “Geography is one of our biggest challenges. How do we handle the fact that the largest residential population growth in our MSA is in Mississippi? This growth increases the demand of single occupancy vehicle traffic coming into the city and there is little chance of coming up with any kind of regional mass transit because of all the layers of government.”
Incentives
Turning next to suggestions on incentives to encourage green building and sustainable development, the interviewees’ responses fell into two broad categories: 1) general suggestions for how to best structure an incentive program, and 2) recommendations on specific incentives. This section provides a detailed look at the most prominent ideas and opinions on incentives and serves as the basis for the final recommendations in this report.

General Suggestions for a Green Building Incentive Program
Many of the interviewees’ general suggestions for green building incentives relate to program structure. For the most part, these suggestions refer to basic guidelines that any public policy or government program based on incentives should follow:

- Make the program as simple and stable as possible. Uncertainty and unpredictability should be avoided. This is especially important for real estate developers due to the long-term nature of their business deals.
- Make sure that the incentives are useful and actually fill a clear financing gap.
- Make sure that the targeted group knows how to use the incentives. Many incentives go unused due to a lack of communication and clear information on how to access and use them.
- Design the incentives so that they are based on clear benchmarks, and the incentives equal the cost incurred.

Several interviewees also provided suggestions on how to implement a program in the Memphis context:

- Provide different incentives for residential and commercial/office development as well as for development projects of different sizes.
- Think about using MLGW as a clearinghouse for an incentive program.
- Pilot any possible incentives by working through actual projects with a developer. This testing will help ensure that the incentives can be operationalized so that they have a real impact for real estate projects.
- Any incentive program must be backed by a strong marketing campaign to ensure success.

Recommendations for Specific Incentives
Due to the relatively large pool of interviewees and their diverse backgrounds and expertise, the recommendations for specific green building incentives included a wide range of ideas.

City and County as First Adopters
Although not a direct incentive, several interviewees mentioned that an important first step for any green building program in Memphis would be for the municipal government to become an early adopter of green building practices. A requirement for all new municipal buildings – or those undergoing major renovation – to meet some kind of minimum green standard (i.e. LEED certification) would set an important example for the private development community and show that green building is an economically viable model.
**LEED Documentation and Certification Fees**

Many of the interviewees discussed the attractiveness of incentives that help reduce the costs associated with LEED documentation and certification. Although most of the developers expressed some level of frustration with the structure and requirements of LEED, there was also recognition of the value of LEED certification. A good bit of this frustration seems to stem not from the construction costs but from the extra cost that the LEED certification and documentation necessitates. The most frequently cited vehicle for delivering this incentive was a direct monetary grant directed toward reducing LEED fees.

**Utility and Energy Incentives**

Another frequently discussed green building incentive relates to energy costs and utility payments. Although MLGW offers a few incentive and assistance programs aimed at encouraging building efficiency, the interviewees see an opening to expand these programs and make them more far-reaching and accessible. Possible changes include: expanding MLGW’s EcoBUILD program to include standards for other building types and for existing buildings (currently only covers new residential), increasing rates for energy generation payments for renewable energy such as solar, and expanding the current MLGW/USGBC Memphis chapter incentive for commercial buildings that achieve LEED certification.

**Tax Incentives**

Another topic that received quite a bit of attention was tax incentives. Many of the developers view taxes as a natural starting point for government incentives since they are one of the “levers” that government can use to influence behavior. The most frequently mentioned tax incentive was a reduction in property taxes. It was unclear whether the developers interviewed were aware of the PILOT incentive program available in the CBID and central city area that offers an extension on reduced property taxes for projects that attain LEED certification. This lack of familiarity may be due to the relative newness of the incentive, its introduction at the beginning of the recession and the downturn in development and new construction, or the fact that some of these developers’ projects would not qualify for the PILOT in the first place.

The interviewees also offered several interesting new ideas related to tax incentives for green building. One developer who works in affordable housing mentioned that the PILOT that is currently available for certain affordable housing projects could be extended for projects that incorporate a certain level of green features. Though not an incentive, one developer mentioned using the PILOT program used to attract large, multi-national corporations to the area as a way to advance sustainability and green building goals; the city-county could require these corporations to build their new facilities or offices to a certain LEED certification level in exchange for some of the valuable property tax abatements they receive.

**Structural and Regulatory Incentives**

The final general category of incentives discussed during the interviews relates to regulatory changes that could help encourage incorporation of green building practices. Zoning variances that allow for greater flexibility in density, floor area ratio (FAR), or building height were most frequently mentioned. The ability to exceed current requirements for these categories – to essentially allow for more leasable building space on the same plot of land – was seen as a particularly attractive incentive.
When asked about the value of incentives focused on expedited project review and permitting, the response was more mixed. On the whole, the interviewees – and particularly the developers – did not see the permitting and entitlement process as a major barrier in the development process, with most mentioning that the process in the Memphis-Shelby County area is less time-consuming than in other areas of the country. However, several of the developers thought an expedited review incentive for incorporating green building features could be somewhat valuable as the construction and real estate development industries hopefully pick up steam in the next few years.

A couple of the developers mentioned that the relaxation of some stormwater fees and regulations may be a valuable incentive to provide greener building projects. Specifically, one developer suggested that the current stormwater impact fees based on impervious surface coverage could be reduced for projects that incorporate sustainable stormwater management features. Another developer suggested that some of the more onerous stormwater requirements that have been instituted in the area as part of the Clean Water Act may actually work against more sustainable building and development practices. For example, requirements for detention or retention basins in certain areas limit the developable land in parcels that could help result in more walkable, dense development patterns. Interestingly, the two developers that mentioned these stormwater-related incentives work for larger firms. Stormwater fees and regulations may be a larger cost for them due to their focus on larger master planned projects and office and industrial parks.

Finally, several interviewees mentioned the need to mix green building and sustainable development incentives with regulatory disincentives for the kinds of development not desired. The only specific disincentive brought up during the interviews focused on charging impact fees that more accurately reflect the costs of greenfield development.

**Summary**

Despite the diversity of experience represented by these developers, there seemed to be a fairly high degree of consensus on many of the big issues related to green building in Memphis. They see challenges in terms of weak demand for green building in the area; they see the major barriers to green building as cost considerations (especially for third party verification), lack of demand, and low utility rates; and they generally support any incentive that helps make a project more feasible.

Although there seems to be consensus on these overarching issues, there were a number of key differences in some of the responses. Several of the smaller developers were somewhat skeptical about how green building incentives would benefit their projects and work with their business model. In addition, the smaller developers also seemed to focus more on the process of developing and implementing the incentives and making sure that they were the right kind of incentives, i.e. that they would be reliable and available on the front end of a project. Developers from higher-capacity firms that have already been working to incorporate LEED and other third-party certified projects into their portfolio seemed to be less concerned with the mechanics and details but nevertheless were supportive of the concept. In addition, developers who specialize in redevelopment and rehabilitation of existing buildings were supportive of incentives, but also a bit skeptical of an incentive program that uses LEED as the benchmark. LEED is viewed as posing particular challenges for rehabilitation of historic buildings.
Developers who do market-rate residential work were also unsure of the best use of green building incentives for these projects. Again, LEED and other third-party verification systems were seen as problematic and cost-prohibitive for this kind of development in the Memphis context.
III. Case Studies

To provide information on best practices for green building incentives, this section will take an in-depth look at how other cities in the U.S. have designed and implemented incentive-based green building programs. The case study cities were chosen with input from staff at the Memphis-Shelby County Office of Sustainability. The majority of the cities (Nashville, Austin, Cincinnati, Louisville, Indianapolis, and Raleigh) were selected due to their status as comparable peer cities to Memphis that have implemented some kind of green building or infrastructure incentive program. Seattle was selected to provide an example of a more established and leading-edge municipal green building program. Information for the case studies was compiled from public documents and questionnaires from planning and sustainability staff in the respective cities (see Appendix A). The questionnaire focused on gathering information on the following topics: details on the main incentive program(s) for green building, the factors that went into designing these program(s) including the role of the private development community, the performance of the incentive program(s), and any advice or lessons learned they could share with other cities looking to implement green building incentives.

Nashville

Nashville has recently become a leader in sustainability and green building not only in the south, but also in the nation as a whole. Over the last 4 years, the city has developed a number of sustainability initiatives, programs, and ordinances. The following section will provide an overview of the major initiatives related to encouraging green building practices.

Public Building Mandate and Demonstration

In 2007, the Metro Council passed an ordinance requiring that all public and publicly-funded new buildings and renovations over 5,000 s.f. or over $2 million meet a minimum of LEED Silver certification. In addition, Nashville has made progress on its goal to retrofit ten existing public buildings to LEED Silver standards with three renovations completed.

Green Building Permit Ordinance

In 2008, the Nashville Metro Council passed the Green Building Permit and Green Certificate of Occupancy Ordinance. This law allows the provision of green permits and certificates of occupancy (COA) to projects that meet certain green building criteria. The green permit and green certificate of occupancy are granted to residential projects that are certified under one of two green building programs - LEED or EarthCraft.
House – and to commercial projects that are LEED certified and in compliance with the USGBC’s water conservation qualifier (building reduces water consumption by 20%). While this program is voluntary and largely focused on providing recognition and publicity for green buildings, it does allow for expedited review and for buildings that qualify under the program requirements.

Downtown Density Bonuses
Nashville’s new Downtown Code provides several incentives for projects that incorporate green features. The Bonus Height Program (BHP) allows LEED Silver, Gold, and Platinum buildings and LEED-ND certified new building projects to exceed maximum height provisions. The allowable amount of extra height/stories depends on the location of the project (by district) and the level of certification in some districts. For example, in the Core district LEED Silver buildings are allowed 4 extra stories, LEED Gold buildings are allowed 8 extra stories, and LEED Platinum buildings are allowed 12 extra stories. LEED-ND certified projects are typically allowed 1-2 extra stories in most of the downtown districts; this applies to all buildings within the development if there are multiple buildings. In addition, the downtown BHP allows projects that incorporate pervious surfaces that aid in reducing and improving the quality of stormwater runoff to add extra height. Pervious surfaces eligible for this height bonus include: green roofs, pervious pavement, bio-swales, landscaping, and green screens. For this category, the amount of bonus height is twice that of the square feet of pervious surface up to the maximum bonus height allowed for the district. The BHP also has a provision that prevents green roofs from being double-counted under the green building and pervious surface categories unless LEED certification would have been met without the green roof credits. The program also allows a degree of flexibility by stating that LEED certification can be substituted with any other nationally recognized third party green building/sustainable development verification program.

Design, Implementation, and Advice
Information provided by staff from Nashville’s Planning Department shows that a number of different factors went into designing the city’s major green building incentive, the downtown density bonus program. In terms of certification systems (LEED, Green Globes, etc.), they felt that flexibility was important. Instead of limiting developers to using LEED, other third-party, nationally-recognized systems are also eligible to qualify for the incentive. Planners also considered creating a custom green building check-list for the program, but ultimately decided that using an established third-party system would be more straightforward.

In terms of geographic focus, planners decided that this kind of density bonus program should be targeted to certain areas. Although the city is committed to encouraging and supporting green building in all neighborhoods, planners had to balance the incentive of increased density and building height with the desire to foster distinctive communities. By limiting the incentive to areas where increased density is more appropriate, the city is better able to strike this balance as well as avoid conflict with existing residents.

Planners also worked closely with private developers and the local USGBC chapter to help craft the density bonus program as well as the green building permit program. Although private developers were instrumental in pushing for the green building permit, there are few developers actually taking part in the program. According to a planning department staff member, developers do not seem to
be interested in programs like this unless a refund or rebate is offered.

Due to the timing of the completion of the Downtown Code and the implementation of the density bonus program during the recession, there are no examples yet of projects that have taken advantage of the incentive. However, the planning department has a system in place to collect data on all development coming in under the new Downtown Code and would therefore be able to track the performance of the incentive program once it is used.

Other pieces of advice in terms of design and implementation for incentive programs include:

- Consider the existing development entitlements and community character to help calibrate the incentives.
- Investigate the LEED incentive programs in other cities to get ideas and learn from their experience.
- Consult local USGBC members to help with implementing a program based on LEED standards.

Austin
Austin has the distinction as the first city in the country to adopt a formal green building program. As a result, Austin’s voluntary program is fairly wide reaching and offers considerable resources for developers, builders, and homeowners.

General Structure
Austin’s green building program is run by the city’s utility company, Austin Energy, and uses a set of customized green building rating systems that range from 1-5 stars. Each major type of use – commercial, single-family, and multi-family – has its own specialized rating system and program resources available from Austin Energy. Similar to the structure of LEED, the Austin Energy Green Building (AEGB) rating systems award points based on building performance in different categories, including: site design and location, integrated project design, energy use, water use, indoor environmental air quality, materials & resources, education, and innovation. The most recent version of the rating system (developed in 2010) also takes a more performance-based approach by setting

Figure 4. Pedernales Lofts, Austin - 5 star rated green multifamily project

Source: Austin Energy Green Building Program
standards but not prescribing the exact methods to meet those standards.

Also similar to LEED, there are registration and service fees for any project that participates in the rating program; these fees vary by use and by size of the project. As of 2011, the AEGB program had rated approximately 10,000 buildings resulting in savings of 53.6 million kilowatt hours of electricity, 65.8 million gallons of water, and 120,698 tons of construction waste diverted from landfills (Austin Energy 2012). Essentially, the AEGB program offers a customized rating system for the Austin area and offers a wealth of technical resources to encourage the adoption of green building practices.

**Incentives**

The Austin green building program offers a number of incentives to encourage energy efficiency. For the most part, these incentives are in the form of free consulting services and rebates for implementing energy efficient building components based on building type. For residential buildings, rebates up to $1575 are offered for products including air conditioners, attic insulation, solar screens, caulking, and weatherstripping; there are also rebates available for solar panels, solar water heaters, and other high efficiency HVAC equipment. In addition, Austin Energy also offers low-interest loans to help cover the cost of many of the building features listed above.

For commercial buildings, rebates up to $100,000 are offered for products and features such as air conditioners, chillers, lighting systems, solar panels, reflective roofs, and window treatments. Special rebates and incentives are also available for small businesses, free programmable thermostats, thermal energy storage, and weatherization practices for multi-family buildings.

**Public Building Mandate**

Austin was also one of the first cities to adopt a mandate requiring that all municipal buildings over 5,000 s.f. meet LEED Silver standards.
Design, Implementation, and Advice
Staff members at the Austin Energy Green Building program were unable to fill out the questionnaire for this study.

Cincinnati
Cincinnati is another city that has made great strides in addressing sustainability over the last few years. The city’s Office of Environmental Quality handles a number of different programs that focus on issues such as brownfield redevelopment, air quality, climate protection, recycling, and environmental justice. In 2007, the city undertook a comprehensive effort to address climate change in the region as part of the mayor’s Green Cincinnati Initiative. The Green Cincinnati Plan – completed and adopted in 2008 – lays out a detailed road map on steps the city and the region can take to reduce greenhouse gas emissions. As part of Cincinnati’s wider efforts to address sustainability and climate change, the city offers several incentives to encourage green building.

LEED-CRA Tax Abatement
The most prominent green building incentive offered in the Cincinnati area is property tax abatement. Projects that meet certain criteria are granted a real property tax exemption on the improved value. This particular incentive is channeled through a statewide community and economic development initiative – the Ohio Community Reinvestment Area (CRA) Program – that essentially allows municipal and county governments to grant property tax abatements in targeted areas. With the entire city of Cincinnati designated as a CRA, this incentive has the potential to be used by a number of different projects.

This incentive is available both to new construction projects and renovations. Other eligibility requirements include:

- Property must be located within city boundaries.
- Project must be LEED certified at any level (Certified, Gold, Silver, Platinum).
- Project must be commercial, industrial, office space or multi-unit housing (4+ units).
- City Council approval of the tax abatement must occur before construction begins.

The level of tax abatement varies depending on the use and whether the project is new construction or renovation. Multi-unit residential projects (new construction or renovation) are eligible for a 10-year abatement up to a maximum exemption of $96,250 of assessed value. New construction projects are eligible for a 15-year tax abatement up to 75% of the new value of the project. Renovations are eligible for a 12-year tax abatement up to 75% of the new value. For both types, the required minimum investment is $40,000. The calculation of the tax abatement is based on the increased valuation of the property after the investment. The Cincinnati Community Development department provides the following table to show how the property tax abatement would be calculated for a hypothetical project.
Other important stipulations for the Cincinnati LEED-CRA tax abatement program include:

- Property owners must complete a PILOT agreement with the Hamilton County Board of Education to pay 25% of the full amount of exempt property taxes.
- The city has the authority to revoke the property tax exemption at any time after the first year for issues like building code violations and tax payment delinquency.
- Commercial applicants are also required to commit to certain goals of employment creation and retention for their project. Although there doesn’t seem to be a requirement that commercial property owners actually meet these goals, it is a way to gauge the potential employment impact of a project.
- Fees include a $750 application fee and an annual fee of 1% of the value of the abatement with a lower limit of $250 and an upper limit of $2,500.

Residential Tax Abatement for Green Building
As a complement to the commercial and multi-unit residential tax abatement for LEED certified projects, Cincinnati also offers tax abatements for green single family and small residential buildings (less than 4 units), including condominiums. Although the residential property tax abatements are available for projects that don’t attain LEED certification (i.e. for building improvements of all types), there are more extensive tax exemptions available for new construction and renovations of residential buildings that are LEED certified. New residential buildings that are LEED certified are eligible for a 100% property tax abatement on the improved value up to 15 years and up to $562,792. Renovated residential buildings that are LEED certified are subject to slightly different terms: a 10-year abatement on improvements up to a maximum of $562,792 is available, although owners still have to pay tax on the land and

Table 12. Cincinnati CRA abatement example

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market value of new investment</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Assessed value of new investment (35%)</td>
<td>$350,000</td>
</tr>
<tr>
<td>Commercial property tax rate</td>
<td>0.077444543</td>
</tr>
<tr>
<td>Property tax on new investment</td>
<td>$27,105</td>
</tr>
<tr>
<td>Annual abatement (75%)</td>
<td>$20,305</td>
</tr>
<tr>
<td>Total abatement (12-year term)</td>
<td>$243,960</td>
</tr>
</tbody>
</table>

Source: City of Cincinnati Department of Community Development

Figure 6. LEED Silver historic buildings, Cincinnati

Source: www.building-cincinnati.com
the market value limit will increase by 3% compounded each year. For LEED Platinum residential buildings – new or renovated – there is no maximum value limit.

Again, there are special terms for the residential tax abatement program to ensure compliance, including annual exterior building inspections and the ability to revoke the abatement any time after the first year for any building code violations or tax delinquencies.

Green Roof Loan Program
Cincinnati also offers an innovative loan program for green roof installation on residential, commercial, and industrial buildings. The money for the program’s below market rate loans comes from the state’s Water Pollution Control Fund which aims to assist with projects that help improve water quality. Cincinnati’s program is targeted at reducing stormwater runoff and sewer system overflows.

Design, Implementation, and Advice
As part of the process of drafting this incentive program, Cincinnati staff reached out to professionals in the real estate and design fields (architects, developers) as well as public entities to get feedback and assistance in framing the guidelines. According to a city planner, this involvement was crucial in helping gauge the public response to a green building incentive program. It was also an important way to use the expertise of professionals in the community to better understand the impacts of green building.

The planner also cited some interesting impacts of the incentive program. Since its implementation, there has been an increase in multi-family residential developments in the city as well as a higher number of LEED tax exemption projects than non-LEED tax exemption projects. Although the planner did not reference a formal monitoring or evaluation system, it appears that city staff are gathering information on the effects of this program.

In terms of cost and administration, the Cincinnati planner had several pieces of advice. Since LEED certification is used as the major criteria, the program has been fairly easy to administer. With certification carried out by a third party, there is no need for city staff to devote time to verifying the green features of a building project. However, the planner did warn that an extremely positive response to the program – i.e. many projects applying for the incentive – can add significantly to the staff workload. It is important to take potential response and administrative capacity into account when implementing this kind of program.

Louisville
Similar to Cincinnati, Louisville’s formal sustainability efforts appear to have been spurred on by a commitment to address climate change. In 2005, Louisville’s mayor signed onto the U.S. Mayor's Climate Protection Agreement, stating a commitment to reduce the city’s greenhouse gas emissions to 7% below 1990 levels by 2012. Four years later, Louisville completed its first Climate Action Report in order to document existing conditions, pinpoint areas for improvement, and outline recommendations and actions to help meet the 2012 goal. One of the report’s recommendations specifically addresses the creation of an incentive-based green building program: “Louisville Metro Government should implement a Green Permitting process to incentivize green building. To assist
with this process, each approving agency within the city should have a Green Building Professional designated to oversee approval of ‘green’ projects.” Although the city’s sustainability efforts have been moving forward since 2009 (an Office of Sustainability is now a part of the city government), it was not until July 2011 that the metro government passed a Green Initiatives ordinance that formalized incentives in the land development code for private developers who build green.

Green Initiatives Ordinance
Louisville’s green building program focuses on providing density bonuses as an incentive to encourage more sustainable building practices. A key part of Louisville’s green building program is that it does not require LEED certification in order to receive the incentives. Instead, Louisville’s green building criteria incorporate certain parts of LEED standards in order to customize it to the area’s particular climate and context.

Since the ordinance is relatively new, the city does not yet have performance, evaluation, or monitoring information available. Louisville’s sustainability director did indicate that stakeholder engagement through community meetings and forums was an important part of the design and development process for the ordinance.

Indianapolis
Indianapolis’s Office of Sustainability was created in 2008 under the leadership of Mayor Greg Ballard. Part of the SustainIndy initiative and located in the Public Works department, the Office of Sustainability is the primary resource and coordinator for the city’s sustainability efforts. In the first three years of its existence, the office has focused on six broad areas: promoting energy efficiency & reducing GHG emissions, reducing waste & recycling, developing green infrastructure to deal with stormwater management issues, enhancing quality of life for all residents, encouraging green building and sustainable development practices, and increasing bicycle infrastructure. Indianapolis uses an incentive-based green building program to encourage the adoption of sustainable building practices.

Permit Fee Rebate Program
Indianapolis’s green building program offers partial rebates for project permit fees with rebates ranging from a minimum of 30% to a maximum of 50%. This rebate is available for new buildings and renovations of existing buildings provided that they meet the criteria of at least three categories from a list of six. The following table lists the categories and their respective requirements:
Similar to Louisville, the Indianapolis incentive program does not require LEED registration or certification. The six categories and criteria listed above are, however, adapted from LEED standards. In addition, the incentive program policy states that projects seeking LEED certification will automatically qualify for all or part of the permit fee rebate.

**Design, Implementation, and Advice**

According to a planner in the city’s Office of Sustainability, private developers played a major role in designing the fee rebate incentive program. Although staff set the parameters for the kinds of incentives that could work given administrative and technical capacity for inspections and plan review, developers were brought in to help iron out some of the details. As the planner put it, “City staff met frequently with a group of private developers to understand which types of incentives imposed hardships, which were most embraced, and which were most likely to be pursued.”

In terms of compiling a strong program of incentives, the Indianapolis planner recommends considering all the possible loopholes or unintended consequences of each incentive. He shared an example of a loophole in the Indianapolis incentive program relating to a rebate awarded for proximity to city bus lines. While the intent of this incentive was to encourage more development closer to the city center, it is possible for suburban sites to qualify under this measure. To help

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**Table 13. Indianapolis green building incentive categories and requirements**

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Quality/Quantity</strong></td>
<td>A greenfield development project that retains 90% of the pre-developed condition annual runoff or a redevelopment project that includes retrofits that retain 50% of the 1” water quality event as compared to the existing conditions via green infrastructure methods as defined by the Green Supplemental Document. Retention is defined as not returned to the storm sewer.</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>A project that provides secure bike storage with showers and changing room facilities for occupants and/or other facilities for occupants/visitors to utilize alternative transportation methods (such as ride share, preferential carpool parking, bus travel accommodations, or electric car charging stations).</td>
</tr>
<tr>
<td><strong>Energy</strong></td>
<td>A project that conforms to ASHRAE 90.1-2007 guidelines and/or utilizes an on-site renewable energy source (wind, solar, geothermal). In the case of residential buildings, the project must utilize EnergyStar (or equivalent) rated HVAC systems, lighting systems, and appliances.</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>A project that collects and diverts 50% of construction waste for reuse or recycling from a final disposal facility and/or uses 10% regionally sourced (within 500 miles of Marion County) building materials.</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>A project that exceeds tree canopy requirements and rehabs/reuses an existing building or redevelops on a brownfield site.</td>
</tr>
<tr>
<td><strong>Innovative Design</strong></td>
<td>A project that utilizes an innovative green building technique or technology beyond the criteria above and provides documentation demonstrating the benefits to building owner, occupants, and citizens of Indianapolis/Marion County may qualify for a substitution for one (1) criterion described above.</td>
</tr>
</tbody>
</table>

Source: City of Indianapolis Office of Sustainability
deal with these kinds of unintended consequences, the planner recommends looking at a variety of building sites and applying different development or redevelopment scenarios to them to better understand how incentives may not work as originally planned.

In terms of implementation and evaluation, the green building rebates are not awarded until inspections have been carried out to ensure that the proper features have been implemented. Maintaining some kind of independent verification system is especially important for an incentive program that does not follow one of the established national assessment systems. Right now, there is no formal monitoring or evaluation system to measure the performance of participating projects due to the relatively small number that have taken advantage of the program (less than 10 projects since August 2010).

**Raleigh**

Raleigh, NC perhaps best mirrors the current trajectory of sustainability efforts in Memphis. The city's Office of Sustainability – which manages the Sustainable Raleigh program under the aegis of the City Manager's Office - is a little over two years old, and many sustainability-focused initiatives, programs, and plans are brand new or in the process of being developed. Sustainable Raleigh has taken advantage of a number of federal grants and stimulus funding over the last 3-4 years to establish and advance sustainability efforts related to energy efficiency, education, and climate change. Although Raleigh does not have a formal, comprehensive green building program, the city has instituted several incentive programs that encourage sustainable development practices related to stormwater management and erosion.

**Cost Share Programs**

As part of a new citywide storm drainage policy, Raleigh offers technical design and financial assistance to help property owners with erosion and other stormwater issues. Although the official policy outlines a number of different situations where assistance is available depending on the cause of the problem, whether public lands are endangered, and whether street and/or structural flooding is involved, for the most part the city will cover 80-100% of the cost of these projects. In addition, the city offers a cost share program focused on improving water quality and reducing pollution in area streams through implementing best management practices. Depending on the maintenance period that a property owner agrees to, the city cost share for these facilities ranges from 50-75%.

Two additional smaller programs include a rebate for high-efficiency toilets and payments for reporting sewer overflows.

**Design, Implementation, and Advice**

Sustainable Raleigh staff declined to complete the questionnaire for this project since they do not yet have a formal green building program.

**Seattle**

Seattle has arguably one of the most comprehensive and effective green building programs in the nation. Starting in 2000 with a mandate for public facilities, the program now offers a variety of programs, resources, and incentives for residential, multi-family, and commercial green building projects. Although Seattle and Memphis are very different cities, Seattle’s experience with designing,
implementing, and operating a green building program should nevertheless provide some useful lessons for Memphis.

Residential
Rebates, grants, and loans make up the bulk of the residential incentives. Rebates of various sizes are available for: weatherization in gas-heated homes (floor, wall, roof, & duct insulation and window replacement); gas-fired high-efficiency furnaces; energy-efficient clothes washers; Energy Star natural gas water heaters or tankless on-demand water heaters; efficient sprinkler systems; and recycling of refrigerators and freezers. In addition, developers, owners, and tenants of homes in targeted areas that incorporate best management practices such as rainwater cisterns, green roofs, rain gardens, and reduced impervious surface are eligible for rebates to cover the cost of these improvements. The majority of these rebates are available through the area utility companies, Puget Sound Energy, Seattle City Light, and Seattle Public Utilities.

Grants and loans are available for weatherization repairs for low to moderate-income, owner-occupied homes or condos. Seattle City Light also offers incentive payments (up to $5,000 per year) for metered renewable energy from solar electric, wind and anaerobic digester systems.

Multi-Family
Multi-family green building incentives also include a number of rebates and grants as well as permitting and development incentives. Of note, the Seattle program offers technical assistance and priority permit review for projects that are particularly innovative for the area. In addition, LEED Silver projects in the downtown core are eligible for density bonuses equal to the first increment of additional floor area above the base FAR. Other interesting and appealing incentives include one-time grants to help with the design and certification costs of green projects and free insurance coverage for green certified property owners, developers and non-profit housing organizations that provide affordable housing.

Commercial
Similar to the first two categories, commercial green building incentives are largely funneled through the Seattle area utility companies. Several programs particularly stand out. The Energy Smart Services program provides rebates and financial incentives to help reduce installation costs of energy efficient systems – ranging from insulation to transformers to HVAC – in both new construction and major renovation projects. This program also offers incentives and rebates to industrial customers for energy efficient equipment such as chillers, air conditioners, and efficient transformers.
The Commercial Efficiency Program offers grants ($0.50 to $2.60 per s.f.) for new facilities and major renovation projects that improve whole building energy efficiency beyond code requirements or for individual efficiency measures related to HVAC, building envelope, or lighting systems. In addition, the utility companies offer a number of rebates and incentives for energy efficient systems and practices related to water. Seattle City Light also provides free technical assistance for modeling electrical efficiency projects, research and evaluation for building system designs, and facility assessment audits.

Finally, the Department of Planning and Development administers two incentive programs tailored to developers. The Priority Green program offers technical assistance and priority permit review to innovative green building projects. As mentioned above for the multi-family category, the city also offers a density bonus to LEED Silver projects in the downtown core.
IV. Recommendations

Based on existing green building program research, input from local developers, planners and other green building professionals, and the case study communities presented above, this section provides a list of recommendations for planners and leaders in Memphis and Shelby County as they begin the process of designing an incentive-based green building program.

1) Lead the Way with a Green Building Mandate for Publicly Owned Facilities

Several developers and other interviewees mentioned this as an important first step in creating a successful green building program. While this is not a direct incentive to private developers, it would demonstrate the public sector’s commitment to green building and hopefully put pressure on the private development community to follow suit. Furthermore, this would give government staff experience with the green building development process which should result in well-designed and useful incentives for private developers.

The terms of this policy (required for new buildings only, facility square footage and/or cost requirements, whether to use LEED as the standard) should be tailored to the needs and capacity of the city and county.

2) Coordinate Green Building Incentives with Existing Incentive Programs

Like many other cities, Memphis employs incentive programs for a number of different purposes, most notably for economic development, job creation, and community revitalization. The PILOT (Payment in Lieu of Taxes) program is frequently used to attract businesses to the area as well as encourage development and job creation downtown and in the central city. The newly-minted EDGE (Economic Development Growth Engine) initiative is a joint city-county effort that, among other things, works to design appropriate incentives for firms and employers looking to move to the area. MLGW also offers incentives in the form of revenue allowances or waivers for utility installation and connection fees to projects that incorporate affordable housing, individual infill homes, and developments in the downtown area.

It may be productive and efficient to first look at how green building incentives could be integrated into some of these existing incentive programs. Leaders in Memphis have already been moving toward this idea, with the extension of tax freezes (PILOTs) for qualifying downtown/center city projects that are LEED certified. Although it is difficult to say whether this first case of green building incentive integration with existing incentive programs has been successful due to the timing of its adoption (just as the recession hit), this kind of synergy with existing programs seems to be a natural fit. In particular, MLGW’s programs (incentives mentioned above, EcoBUILD) appear to provide opportunities for collaboration and integration.

At the very least, it is important to examine these existing programs and make sure that any new green building incentives do not work against them.
3) **Focus on Structural & Marketing Incentives, Strive to Add Financial Incentives**

Looking at the case study communities and other green building incentive programs throughout the country, structural incentives appear to be particularly popular. Structural incentives roughly correspond to the “land use changes” and “government process improvements” categories outlined in the 2012 AIA publication mentioned on page 13. This category of incentives includes density bonuses, reduced minimum parking requirements, expedited review and permitting, and priority inspections. Although the expedited review and permitting and priority inspections do not appear to be as useful to Memphis-area developers, density bonuses or increased floor area ratios were often cited as attractive incentives for incorporating green building features. In addition, these kinds of incentives do not require large financial outlays or increases in administrative oversight from the public sector. Similar to the current PILOT program that offers an extension for LEED certified projects, any density bonus incentive should be targeted to areas where greater density and development are more appropriate and desired such as downtown and other central city neighborhoods.

Public education and marketing assistance were also cited during the interviews as potentially useful incentives that the public sector could help provide. Although these kinds of efforts would certainly require time and resources to design and administer, there are opportunities to model these incentives on successful efforts undertaken by other communities. Chicago, Sarasota County, FL, San Diego, CA, and Oakland, CA offer useful examples of green building education and marketing programs.

After first considering structural and education/marketing incentives, the city-county should look at the feasibility of financial incentives that will likely be more complex and require more time and money to administer. These financial incentives could include: grants that assist with third party certification costs, reduced fees (permitting, stormwater impact), and property tax abatement. Particularly given the current fiscal health of local government, these kinds of more costly incentives may be less financially and politically feasible. The structural and education/marketing incentives could be a way to demonstrate early successes and build support for the more complex and controversial financial incentives.

4) **Ensure that Smaller Developers Have Avenues to Participate**

Given the challenges that smaller development firms may face in meeting costly requirements for a green building incentive program (i.e. LEED registration and certification costs), it is important to find ways for these firms to participate. Some of the case study cities provide examples for how to address this issue. Both Indianapolis and Louisville use incentive programs that do not require LEED certification, though their incentive criteria are based on the LEED system. There are a number of ways this kind of program could be structured. For example, there could be different requirements for development firms of different sizes and/or capacities. There could also be a tiered system where the baseline requirements for the incentive do not require LEED, but any LEED certified projects will receive added benefits. Although the program could be structured in many different ways, it is also important to have a
strong verification system in place to ensure that basic green building/energy efficiency goals are met. Developing an incentive and/or rebate program for retrofitting existing buildings could be another way to encourage participation of smaller development firms.

5) **Focus on Simplicity, Accessibility, and Usability**
While this recommendation may seem obvious, many of the interviewees mentioned these concepts as important attributes for any green building incentive program. There are many ways to work toward achieving these broad goals, including:

- Integrate green building incentives into the existing planning, permitting, and development framework to help streamline the process for developers.
- Work to create an effective communication system where developers are able to access up-to-date information on the program as well as any changes or modifications.
- Continue dialogue with the development community as the incentives are developed to ensure their usability and to encourage buy-in and support from developers.
- Consider testing incentives with developers through actual development deals to get a sense of their impact and usability.

6) **Complement with Ongoing Efforts Related to Sustainable Development**
Although incentives play a key role in influencing the behavior of businesses and individuals, it is important to complement incentive programs with other public policy efforts. The interviewees mentioned a number of different strategies related to this objective: 1) work toward building code updates and stronger code enforcement to ensure a minimum level of quality and efficiency for the majority of buildings in the Memphis area; 2) continue working to implement and strengthen the new Unified Development Ordinance; 3) disincentivize sprawl, unsustainable greenfield development, and conventional building practices as much as possible through impact fees and development regulations; 4) work toward greater regional coordination and collaboration to help address unsustainable development patterns.
References


Appendix A: Developer Interview Questionnaire and Case Study Questionnaire

Questions for Developer Interviews

1. How long have you worked in the Memphis area and what kinds of projects does your firm develop – mainly residential, commercial, industrial, mixed-use, or a combination?

2. What experience, if any, do you/your firm already have with sustainable development/green building?

3. Do you see a demand for green/sustainable buildings in the Memphis metro area market?

4. Do you think incentives are needed for developers to build more sustainably? If so, what kinds of incentives would encourage you (and other developers) to incorporate more/higher green building standards into your development projects? If not, why?

5. Would local incentives make sustainable/green building developments more feasible in core city areas?

6. Would you support the use of a formal building assessment system (such as LEED) as the benchmark for an incentive program? Do you think LEED is a useful benchmark/guideline?

7. In your experience, what is the most important barrier to the rapid growth of green buildings? *

8. In your experience, what is the most compelling argument to consider building green aside from government or client requirement? *

9. From your knowledge or direct experience, what two cities do you think have the most successful green building incentives in place? *

* Questions derived from National Association of Industrial and Office Properties (NAIOP) developer survey on green building incentives, found in this report - Green Building Incentives that Work: A Look at How Local Governments are Incentivizing Green Development (2007)
Questions for Case Study Communities

1. What are the main incentive programs that focus on encouraging green building practices in your city?

2. What were the major factors that went into designing these green building incentives?

3. Do you have any kind of evaluation or monitoring system for your green building incentives? How have the incentives performed in terms of encouraging more green building/other goals of your program?

4. How was the private development community involved in the design and implementation of your city’s green building incentives?

5. Have there been any surprises in terms of which incentives have worked and which haven’t worked as expected?

6. What advice do you have for other cities looking to implement an incentive-based green building program? What lessons have you learned?
Appendix B: Nashville Bonus Height Program Standards

Section IV: General Standards

Bonus Height Program

LEED and LEED ND
The U.S. Green Building Council (USGBC) is a non-profit organization that oversees the Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

LEED for Neighborhood Development integrates the principles of smart growth, urbanism and green building into the first national system for neighborhood design. LEED ND goes beyond the building to address sustainability on a neighborhood-wide basis.

The bonuses are specific to each Subdistrict. See the BHP Chart for details.

A different nationally-recognized, third-party system of overseeing green building and/or sustainable development practices may be substituted for LEED. Bonuses will be determined by the Planning Commission based on ratings equivalent to LEED silver, gold, and platinum.

Bonuses for individual buildings are given upon pre-certification of LEED silver, gold and platinum. Bonuses for neighborhoods are given upon pre-certification of LEED ND. Every property within the LEED ND neighborhood may utilize the bonus height. The bonuses are specific to each Subdistrict. See the BHP Chart for details.

The following shall apply to all new construction that utilizes the Bonus Height Program for LEED:

• Prior to issuance of a temporary certificate of occupancy for any use of the development, a report shall be provided for the review of the Department of Codes Administration and the Planning Commission by a LEED accredited professional. The report shall certify that all construction practices and building materials used in the construction are in compliance with the LEED certified plans and shall report on the likelihood of certification. If certification appears likely, temporary certificates of occupancy (as set forth below) may be issued. Monthly reports shall be provided as to the status of certification and the steps being taken to achieve certification. Once certification is achieved, the initial certificate of LEED compliance, as set forth herein, and a final certificate of occupancy (assuming all other applicable conditions are satisfied) shall be issued.
  • To ensure that LEED certification is attained the Department of Codes Administration is authorized to issue a temporary certificate of occupancy once the building is otherwise completed for occupancy and prior to attainment of LEED certification. A temporary certificate of occupancy shall be for a period not to exceed three (3) months (with a maximum of two extensions) to allow necessary time to achieve final certification. Fees for the temporary certificate (and a maximum of two extensions) shall be $100 or as may otherwise be set by the Metro Council. Once two extensions of the temporary certificate of occupancy are granted, any additional extensions shall be granted only in conjunction with a valid certificate of LEED noncompliance as set forth herein.
  • If the property fails to achieve LEED certification, the Department of Codes Administration is authorized to issue a short-term certificate of LEED noncompliance. This certificate will allow the building to retain its certificate of occupancy pending attainment of LEED certification. A certificate of LEED noncompliance shall be for a period not to exceed three (3) months and may be renewed as necessary to achieve certification. The fee for noncompliance shall be issued every time the certificate is issued for up to ten years.
  • The fee for a certificate of LEED noncompliance shall be based on the following formula: \( F = \frac{(CN-CE)}{CN} \times CV \times 0.0075 \), where:
    ▫ \( F \) is the fee;
    ▫ \( CN \) is the minimum number of credits to earn the level of LEED certification for which the project was pre-certified;
    ▫ \( CE \) is the number of credits earned as documented by the report; and
    ▫ \( CV \) is the Construction Value as set forth on the building permit for the structure.

APPENDIX B
The LEED-CRA commercial tax abatement is a real property tax exemption offered for green building projects in the City of Cincinnati, including both new construction and renovation of commercial space or multi-unit (4 or more units) housing space. To be eligible, projects must receive Leadership in Energy and Environmental Design (LEED) certification from the US Green Building Council. For structures with less than 4 residential units, please refer to the City’s residential LEED-CRA tax abatement program.

- To promote environmental awareness and low-environmental impact development.
- To encourage rehabilitation and new construction within the City of Cincinnati.
- To reduce ongoing operating expenses.
- To retain and create jobs.

- Property must be located within the City of Cincinnati.
- Project must receive certification from the US Green Building Council as meeting either Certified, Silver, Gold, or Platinum LEED standards.
- Commercial/industrial/office space and multi-unit housing (4 or more units) are eligible.
- Tax abatement must be approved by City Council - before construction begins.

**NEW CONSTRUCTION**
- Tax abatement for up to 15 years. Up to 75% tax exemption. Requires minimum investment of $40,000.
- Application must be approved before construction begins.

**RENOVATION**
- Tax abatement for up to 12 years. Up to 75% tax exemption. Requires minimum investment of $40,000.
- Application must be approved before construction begins.

**PROPERTY TAX ABATEMENT**
- Property tax abatement is based on the increased valuation that results from real property improvements, and results in lower taxes.

**FEES/REPAYMENT**
- An application fee of $750 is required by the Ohio Department of Development, Office of Tax Incentives.
- There is also an annual fee equal to 1% of the annual tax exemption – but not less than $250 or more than $2,500.

**MONITORING**
- Tax abated properties are monitored against building code violations, non-payment of property tax, and conformance to contract terms.
- The tax exemption can be rescinded if contract terms are not met.
The City requires that the applicant provide a statement of Sources and Uses of Funds for the project (templates are available upon request) and a post-construction operating pro forma for the building. If the applicant obtains bank financing, please submit a copy of the pro forma used to apply for that financing and a contact person at the bank considering the application. The submission to the bank must be used in lieu of Attachment I.

The applicant should also submit a copy of the proposed construction plans.

All applicants must pay a $750.00 application fee payable to “Ohio Department of Development.” In addition, an annual fee will be collected of 1% of the annual tax exemption, but not less than $500 or more than $2,500. This fee will be payable with submission of Annual Report due March 31st of each year.

Address of subject property: _____________________________________________________ Cincinnati, Ohio 452___.

Book-page-parcel number(s):___________________________________________________________.

Name of property owner(s): _____________________________________________________________

Legal name of business: ________________________________________________________________

Address of property owner: _____________________________________________________________

Main contact: _________________________________________ Phone: _________________________

Please respond as appropriate:

Is any other funding being requested from the City of Cincinnati for this project? Yes No

Is the project a LEED-certified development? Yes No

Is the project new construction or renovation? New Construction Renovation

Is the project multi-unit residential (four or more units)? Yes No

If so, how many dwelling units will there be? ____________________________________________
Will any of the units be condominiums? Yes No

If yes, the condominium units qualify as single-family residential and the applicant should use the single family tax abatement application.

Is the project a mixed-use project? Yes No

If so, please describe the breakdown in use by square foot and/or units.

____________________________________________________________________________________
____________________________________________________________________________________

What is the size of the existing structure(s)? ________ square feet.

What is the estimated market value of the existing structure? ________________________________

What will be the size of the new or remodeled structure(s)? ________ square feet.

What is the estimated cost of the construction or remodeling? $ _____________________________

When will the project begin? ________________ When will it be completed? ________________

What else should we know about the project?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Please provide a brief description of the applicant’s development experience.

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Does the property owner owe:

Any delinquent taxes to the State of Ohio or a political subdivision of the state? Yes No

Any moneys to the State or a state agency for the administration or enforcement of any environmental laws of the State? Yes No

Any other moneys to the State, a state agency or a political subdivision of the State that are past due, whether the amounts owed are being contested in a court of law or not? Yes No

If the applicant responds yes to any of the above, please provide details of each instance including but not limited to the location, amounts, and/or case identification numbers (please add additional sheets as necessary).
The Applicant authorizes the City and/or the Ohio Department of Development to inspect the personal financial statements of the Applicant, including but not limited to tax records and other similar information not ordinarily open to public inspection; and authorizes the Ohio Environmental Protection Agency and the Ohio Department of Taxation to release information to the City and/or the Ohio Department of Development in connection with the above statements.

Note: The above statements as to taxes and other obligations, and authorization to inspect, are required by Ohio Revised Code Section 9.66 (C) (1). As provided by statute, a knowingly false statement under this paragraph may be prosecuted as a first degree misdemeanor under Ohio Revised Code 2921.13 (D) and may render the Applicant ineligible for any future economic development assistance from the state or any political subdivision.

Please initial that you have read the above.  X _____________________
Application Compliance Information:

1. Tax exemption for a multi-unit residential project for new construction and rehabilitation may be granted for up to ten years of exemption up to a maximum exemption of $96,250 of assessed value of the unit (approximately equal to $275,000 market value); up to fifteen years tax exemption for new construction of commercial and industrial properties; and up to twelve years tax exemption for renovation of commercial and industrial project.

2. A tax exemption agreement must first be completed with the City of Cincinnati and approved by City Council for all commercial, industrial, and multi-unit residential projects.

3. A Payment in Lieu of Taxes Agreement with the Board of Education for 25% of the full amount of exempt real property taxes that would have been paid to Hamilton County if the tax exemption were not in effect must be completed.

4. Once construction is complete the total cost of the project must be submitted. Two acceptable examples are:
   1) The affidavit of the draw payments of the construction contract. (Please ensure that the affidavit includes a description of the work completed.)
   2) A notarized affidavit identifying the general categories of the work completed, the date the work was completed, and each category's expense.

5. Once construction is complete, please submit a copy of the property tax bill from the Hamilton County Auditor’s Office: [www.hamiltoncountyauditor.org](http://www.hamiltoncountyauditor.org).

6. Once construction is complete, a copy of all closed Building Permit(s) and/or the Certificate of Occupancy issued for the work claimed must be submitted. Please call your contractor or the City of Cincinnati Building and Permit Department at 352-3271 to obtain the closed permits. Information can also be obtained on the City’s EZ-Track online service: [http://cagis.hamilto](http://cagis.hamilto).
Important Notes:

❖ Exemption value is determined by the Hamilton County Auditor’s Office.

❖ The City may revoke the tax exemption any time after the first year if the property has building code violations or is delinquent in the property tax.

❖ City of Cincinnati Council may rescind the ordinance granting tax abatement at their discretion.

Acknowledgement Information:

Applicant acknowledges that it is not eligible for tax exemption if Applicant commences the Project prior to the execution of the Community Area Tax Exemption Agreement.

The Applicant agrees to supply additional information upon request.

Applicant affirmatively covenants that the information contained in and submitted with this application is complete and correct including all attachments.

______________________________________ ____________________________________
Signature of Applicant     Date

______________________________________ ____________________________________
Name printed       Title (if signed as officer)
ATTACHMENT II

Commercial Applicants, please complete.

Nature of commercial/industrial activity (manufacturing, warehousing, wholesale or retail stores, or other) to be conducted at the site: _____________________________________________________

List primary 4 digit Standard Industrial Code (SIC) #_____________. Business may also list other relevant SIC numbers.

Form of business enterprise (corporation, partnership, proprietorship, LLC or other):

________________________________________________________________________

Job Creation and Retention. The Company will agree to use its best efforts to retain and/or create at least the following estimated number of employee positions at the Property in connection with the Project, in accordance with the specified schedule, and to maintain the minimum employment levels throughout the period of real property tax exemption.

Existing positions at the site of the project enterprise to be retained:
  Full-time permanent _____________ employees; total annual payroll $____________.
  Full-time temporary _____________ employees; total annual payroll $____________.
  Part-time permanent ____________ employees; total annual payroll $____________.
  Part-time temporary _____________ employees; total annual payroll $____________.

Existing positions at other locations in Ohio:
  Full-time permanent _____________ employees.
  Full-time temporary _____________ employees.
  Part-time permanent ____________ employees.
  Part-time temporary _____________ employees.

Estimate the number of new employees the property owner will cause to be created at the facility that is the project site within three years. Job creation projection must be itemized by the name of the employer (add an additional page) “New Employees” are for purposes of this paragraph only defined as: persons employed in construction of the improvements to be exempted from taxation; and persons first employed by the applicant at the project site, not subject to City of Cincinnati income taxes within two years prior to employment:

  Full-time permanent _____________ employees; total annual payroll $____________.
  During the first twelve months of the agreement: ________ positions.
  During the second twelve months of the agreement: ________ additional positions.
  During the third twelve months of the agreement: ________ additional positions.
  Full-time temporary _____________ employees; total annual payroll $____________.
  During the first twelve months of the agreement: ________ positions.
  During the second twelve months of the agreement: ________ additional positions.
  During the third twelve months of the agreement: ________ additional positions.
  Part-time permanent _____________ employees; total annual payroll $____________.
  During the first twelve months of the agreement: ________ positions.

APPENDIX C
During the second twelve months of the agreement: ________ additional positions.
During the third twelve months of the agreement: ________ additional positions.

Part-time temporary _____________ employees; total annual payroll $____________.
During the first twelve months of the agreement: ________ positions.
During the second twelve months of the agreement: ________ additional positions.
During the third twelve months of the agreement: ________ additional positions.

Will the project involve relocation of employment positions or assets from one Ohio location to another?
Yes  No (circle)

If yes, state the location from which employment positions or assets will be relocated and the location to where the employment positions or assets will be located:
___________________________________________________________________________________
___________________________________________________________________________________

State the enterprise’s current employment level in Ohio (itemized for full and part-time and permanent and temporary employees):
___________________________________________________________________________________

State the enterprise’s current employment level for each facility affected by the relocation, detailing the number and type of employees and/or assets:
___________________________________________________________________________________

What is the projected impact of the relocation, detailing the number and type of employees and/or assets to be relocated? ______________________________________________________________________
___________________________________________________________________________________

(Note: Ohio Revised Code Section 3735.673 requires the City formally to notify each county or municipal corporation from which the enterprise intends to relocate, and the Ohio Department of Development, prior to approval of a tax exemption agreement.)

Prior Agreement. Applicant represents and warrants that neither Applicant, nor any “predecessor” or “related member” is a party to another agreement granting tax exemption relating to a structure in this state at which the Applicant (or the predecessor or related member) has discontinued or intends to discontinue operations prior to the expiration of the term of that agreement. (Note: This information is required by Ohio Revised Code 3735.671 (E). As used herein “predecessor” means a person or entity that has transferred assets or equity to Applicant, which transfer resulted in the full or partial non-recognition of gain or loss, or resulted in a carryover basis, both as determined by rule adopted by the Ohio Tax Commissioner; and “related member” has the same meaning as defined in Ohio Revised Code 5733.042 without regard to division (B) of that section.)

Estimated existing (if any) value of machinery, equipment, furniture, and fixtures at the Property: $____________________.

Estimated existing (if any) value of machinery, equipment, furniture, and fixtures used at another location in Ohio and relocated or to be relocated to the Property: $______________.

Estimated added value of machinery, equipment, furniture, and fixtures to be located at the Property as a result of the Project: $____________________.

APPENDIX C
Estimated existing value (if any) of inventory held at the Property: $____________________.

Estimated existing value (if any) of inventory held at another location in Ohio and relocated or to be relocated to the Property: $____________________.

Estimated added value of inventory to be located at the Property as a Result of the Project: $______________.

Estimated total value of inventory to be located at the Property at the conclusion of the Project: $______________.
DEPARTMENT OF COMMUNITY DEVELOPMENT

APPLICATION FOR TAX ABATEMENT

CITY OF CINCINNATI COMMUNITY REINVESTMENT AREA

RENOVATION AND NEW CONSTRUCTION

SINGLE UNIT, TWO UNIT, AND THREE-UNIT DWELLINGS AND CONDOMINIUMS

Address of subject property: ________________________________ Zip: 452

Hamilton County Auditor Parcel ID#: ___________ - ___________ - ___________

City of Cincinnati Neighborhood: ______________ Year Residence Built __

The subject property must be located within the City of Cincinnati.

Name of real property owner(s): ______________________ Phone: ______________

Address of real property owner(s): ______________________

Applicant email address _________________________________________________________________

Circle one:

- New Construction
- Renovation of existing dwelling
- Condominium Conversion

Circle one:

- Number of dwelling units: 1  2  3
- Circle one: Owner-Occupied Rental

Does the project meet Leadership in Energy and Environmental Design (LEED) levels as defined by the U.S. Green Building Council (www.usgbc.org)?

Circle one: Yes No If so, please include a copy of the LEED For Homes certificate.

Date of Project completion: ______________________________

PLEASE COMPLETE AND SUBMIT THE FOLLOWING FOR PROPERTY RENOVATION:

Brief description of work:

- A copy of all closed Building Permit(s) and/or the Certificate of Occupancy issued for the work claimed. Please call your contractor or the Department of City Planning and Inspections at (513) 352-3271 to obtain the closed permits. Information regarding permits may be obtained at this web address: http://www.cagis.hamilton-co.org.

- Total cost of improvements: $ __________

Include documentation to support cost of improvements. Three acceptable examples are:

1) A notarized list identifying the general categories of the work completed, the date the work was completed, and each category's expense. A labor cost for your own work can also be included.
2) The Affidavit of the draw payments of the construction contract. (Please ensure that the affidavit includes a description of the work completed.)
3) HUD Settlement Statement of the bank loan taken out for the construction costs.

You must document at least $2,500.00 in costs for a one- or two-unit dwelling and at least $5,000.00 in costs for a three-unit dwelling.

APPENDIX C
PLEASE COMPLETE AND SUBMIT THE FOLLOWING FOR NEW CONSTRUCTION OR CONDOMINIUM CONVERSION:

- The final Certificate of Use and Occupancy. Please call your contractor or the Department of City Planning and Inspections at (513) 352-3271 to obtain the Certificate of Occupancy. If this application is for a condominium, the Certificate of Use and Occupancy must be for the individual unit.

- HUD Settlement Statement of the bank loan or a notarized list identifying the general categories of the work completed, the date the work was completed, and each category's expense.

- Total cost of new construction: $ ________________

Please note:

- Effective September 1, 2011, an annual exterior inspection will be required for all new and existing tax abated property to ensure that the property is being properly maintained. If property maintenance or zoning code violations are issued against the property and not promptly resolved, the tax abatement will be subject to revocation.

- New tax abatement applications are subject to exterior property maintenance and zoning inspection prior to final approval by the Department of Community Development.

- The start of the tax abatement period begins with the date of documented completion of work, the last permit inspection, or the date on the Certificate of Occupancy. After the City of Cincinnati qualifies the property for the abatement, the tax abatement will go into effect when the application is certified by the Hamilton County Auditor.

- A valuation of the improvements will be made by the Hamilton County Auditor’s office. Abatement value is determined by the Hamilton County Auditor’s Office. PLEASE BE AWARE THAT THE VALUATION DETERMINATION COULD TAKE SEVERAL MONTHS.

- A copy of your LEED For Homes Certificate MUST accompany a request for the LEED abatement. Additional information regarding this program may be found at the U.S. Green Building Council website. (www.usgbc.org)

- The Housing Officer may revoke the tax abatement any time after the first year if the property has building code violations or if delinquent taxes are owed on the property.

- Any person denied tax abatement by the Housing Officer may appeal in writing to the Community Reinvestment Area Housing Council, which shall have the right to overrule any decision of a Housing Officer. Appeals from a decision of the Housing Council may be taken to the Court of Common Pleas.

- City of Cincinnati Council may rescind the ordinance granting tax abatement at their discretion.

I declare under the penalties of falsification that this application, including all enclosed documents and statements, has been examined by me, and to the best of my knowledge and belief is true, correct, and complete.

Date __________________ Signature of Property Owner(s) __________________

Send Application to:

City of Cincinnati
Department of Community Development
Residential Tax Abatement Program
805 Central Avenue, Suite 700
Cincinnati, Ohio 45202
Fax: (513) 352-6123, Attention: Residential Tax Abatement Application
For further program information, please contact: (513) 352-6146
Or via e-mail communitydevelopment@cincinnati-oh.gov

APPENDIX C
PROPERTY TAX ABATEMENT INFORMATION

The City of Cincinnati Department of Community Development Community Reinvestment Area (CRA) Tax Abatement Program stimulates revitalization, retains residents, and attracts new homeowners. The program provides a benefit for residents who improve their homes and encourages home shoppers to buy in the City of Cincinnati.

Any homeowner in the City may be eligible for a 10-year property tax abatement if they have renovated their home or purchased a newly constructed home. The home must be either a condominium or a one, two, or three unit residential structure. The period for tax abatement begins with the date of documented completion of work, although it is not applied to the property until the application date.

Improvements made to the property resulting in an increased property valuation qualify for tax abatement. The owner of a property that gains value because of remodeling or substantial improvement is not charged the extra property tax for a period of ten years. For example, if the owner of a $75,000 home makes $25,000 in improvements, the owner is only responsible for taxes based on the home’s value prior to improvements plus or minus changes due to reappraisals or triennials or changes in approved tax levies for a period of ten years. The portion of the tax by which the remodeling increased the value of the structure may be abated up to a maximum $309,515 market value increase. Tax on the land will not be affected. It should be noted that some types of remodeling do not increase value. Improvements to the house itself, garage, in ground pools, decks, and patios qualify for abatement. Roofing, vinyl siding, windows, gutters, and painting may improve the condition of the house, however, may not increase the value of the property. Landscaping, retaining walls, driveways and the like do not qualify.

New construction of structures containing a condominium or a one, two, or three unit residential structure is eligible for a 10-year tax abatement up to a maximum $309,515 market value. Tax will be due only on the land and the value above $309,515. Real estate taxes are subject to an increase or decrease due to a reappraisal or triennial or changes in approved tax levies.

Remodeling or new construction of residential property meeting LEED-certified standards is eligible for additional tax abatement based on the certification level. One, two, and three unit residential structures, including condominiums, are eligible for a 100% 15-year tax abatement if newly constructed and 10-year tax abatement for the market-improved value of a renovation up to a maximum $562,792 market value increase. There is no maximum market value limit for improved property or new construction meeting the LEED Platinum standard. Additional information regarding obtaining the LEED certificate may be found on the U.S. Green Building Council website. (www.usgbc.org)

The Hamilton County Auditor’s Office determines the abatement amount based on the type of the improvements. A letter will be received from the Auditor’s Office after the Auditor’s appraisal has been completed. An increase or decrease in taxes during the abatement period may result when voted changes in tax rates, state-mandated reappraisals, or updates reflecting neighborhood trends are adopted.

For condominiums that have a general certificate of use and occupancy for the building and not for the specific unit or the condominium conversion from apartment units did not require any permits, contact the Bureau of Buildings and Inspections and obtain a Certificate of Inspection for the individual unit. If credit is claimed in the abatement application for work that was performed without the required building permits, it will be the owners’ responsibility to obtain the required permits retroactively. If a residential dwelling was purchased after a rehab was performed and there is no permit history to document the rehab, at minimum, a Certificate of Inspection will be required.

Please Note: Effective September 1, 2011, an annual exterior inspection will be conducted on all new and existing tax abated property to ensure that the property is being properly maintained. If property maintenance or zoning code violations are issued against the property and not promptly resolved, the tax abatement will be subject to revocation.

New tax abatement applications are subject to exterior property maintenance and zoning inspection prior to final approval by the Department of Community Development.

APPENDIX C
Appendix D: Indianapolis Green Building Incentive Summary and Worksheet

Indianapolis Green Building Incentive Policy
Effective August 1, 2010

A building construction project (new construction or major renovation, as defined by the Department of Code Enforcement) within the City of Indianapolis/Marion County is eligible for a green building rebate. A project must meet the criteria of a minimum of three (3) of the following categories to be eligible for a 30% rebate. For each additional category the project meets, an additional 10% rebate may be given, up to a maximum of a 50% rebate. Under no circumstances shall any rebate or combination of rebates exceed 50% of the permit fees associated with the project.

WATER QUALITY/QUANTITY
A greenfield development project that retains 90% of the pre-developed condition annual runoff or a redevelopment project that includes retrofits that retain 50% of the 1” water quality event as compared to the existing conditions via green infrastructure methods as defined by the Green Supplemental Document (available at http://www.indy.gov/eGov/City/DPW/SustainIndy/WaterLand/Pages/SustainableInfrastructure.aspx) and provides the required documentation shall qualify for a 10% rebate on all building permit fees associated with the project. Retention is defined as not returned to the storm sewer.

TRANSPORTATION
A project that provides secure bike storage with showers and changing room facilities for occupants and/or other facilities for occupants/visitors to utilize alternative transportation methods (such as ride share, preferential carpool parking, bus travel accommodations, or electric car charging stations) and provides the required documentation shall qualify for a 10% rebate on all building permit fees associated with the project.

ENERGY
A project that conforms to ASHRAE 90.1-2007 guidelines and/or utilizes an on-site renewable energy source (wind, solar, geothermal) and provides the required documentation shall qualify for a 10% rebate on all building permit fees associated with the project. In the case of residential buildings, the project must utilize EnergyStar (or equivalent) rated HVAC systems, lighting systems, and appliances.

MATERIALS
A project that collects and diverts 50% of construction waste for reuse or recycling from a final disposal facility and/or uses 10% regionally sourced (within 500 miles of Marion County) building materials and provides the required documentation shall qualify for a 10% rebate on all building permit fees associated with the project.

SITE
A project that exceeds tree canopy requirements and rehabs/reuses an existing building or redevelops on a brownfield site and provides the required documentation shall qualify for a 10% rebate on all building permit fees associated with the project.

INNOVATIVE DESIGN
A project that utilizes an innovative green building technique or technology beyond the criteria above and provides documentation demonstrating the benefits to building owner, occupants, and citizens of Indianapolis/Marion County may qualify for a substitution for one (1) criterion described above.

Determination of criteria satisfaction is at the discretion of the City of Indianapolis. Total permit rebate shall not exceed 50%.
Indianapolis Green Building Incentive
Effective August 1, 2010

Building construction projects located in Indianapolis/ Marion County that incorporate sustainable design techniques or technologies are eligible to apply for an up to 50% rebate on all permit fees associated with the building project. In order to qualify for the rebate incentive, the project owner must submit all required documentation to the City of Indianapolis’ Department of Code Enforcement as outlined in the steps below:

1.) Project owner reviews the criteria and requirements set forth in the Indianapolis Green Building Incentive Policy document to determine which criteria will be achieved (a minimum of 3) and designs the building and site accordingly.

2.) Project owner completes the Indianapolis Green Building Incentive Worksheet to indicate which criteria the building project intends to achieve and submits with construction documents at initial permit review.

3.) Department of Code Enforcement and Office of Sustainability review initial submission of the Worksheet, Plan set, and any other documentation provided by project owner. The Office of Sustainability provides initial feedback (if applicable) to Project owner in the form of an emailed letter.

4.) During construction process, project owner produces or obtains the required documentation (including third party documentation) for each criteria category in order to prove that the criteria are met.

5.) Prior to final inspection, project owner completes the Indianapolis Green Building Incentive Worksheet again, providing specific information for each criterion met and submits to the Department of Code Enforcement.

6.) Department of Code Enforcement and Office of Sustainability reviews final construction plan set for criteria satisfaction. If three (3) or more criteria are satisfied, Department of Code Enforcement provides a final feedback letter and issues a permit rebate to building owner accordingly. Total permit rebate shall not exceed 50%.

APPENDIX D
**Indianapolis Green Building Incentive Worksheet**

Effective August 1, 2010

This worksheet must be attached to construction drawings at initial permit review submittal AND again prior to final inspection.

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<thead>
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<th>PROJECT INFORMATION</th>
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<tbody>
<tr>
<td>Date Submitted</td>
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<tr>
<td>Project Number</td>
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<td>Project Name</td>
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<td>Project Owner</td>
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<td>Project Address</td>
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<tr>
<td>Permits eligible for rebate</td>
<td>Provide permit #’s. This row to be completed prior to final inspection</td>
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</tbody>
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| CONTACT INFORMATION |  |
|---------------------|  |
| Owner Name          |  |
| Owner Phone Number  |  |
| Owner Email         |  |
| Owner Address       |  |

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<tr>
<th>CRITERIA INFORMATION</th>
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<th>Required documentation</th>
<th>Criteria satisfied?</th>
<th>Rebate % granted</th>
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<td>Attachments or location within plan set; this column to be completed prior to final inspection</td>
<td>This column to be completed by DCE/DoS</td>
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<tr>
<td>Site</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovative Design</td>
<td></td>
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</tr>
</tbody>
</table>

**TOTAL:**

Determination of criteria satisfaction is at the discretion of the City of Indianapolis. Total permit rebate shall not exceed 50%.

---

Appendix D

Revised 7/11/11
## Appendix E: Seattle Green Building Incentives Summary

### Commercial Projects

**Seattle Green Building Incentives** for builders, building owners and tenants

#### Energy Efficiency Services

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Incentives</th>
<th>Contact Information</th>
<th>Website/Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Smart Services</td>
<td>Incentives</td>
<td>Up to 70% of system cost</td>
<td>Seattle City Light 206.684.3254</td>
<td><a href="http://www.seattle.gov/saveenergy">www.seattle.gov/saveenergy</a></td>
</tr>
<tr>
<td>Commercial Efficiency Programs</td>
<td>Grant</td>
<td>$0.50 to $2.60 per sq. ft.</td>
<td>Puget Sound Energy PSE Energy Advisor 1.800.562.1482</td>
<td><a href="http://www.pse.com/solutions/forbusiness">www.pse.com/solutions/forbusiness</a></td>
</tr>
<tr>
<td>Energy Efficiency Tax Incentives</td>
<td>Tax Deduction</td>
<td>Up to $1.80 per sq. ft.</td>
<td>Internal Revenue Service</td>
<td></td>
</tr>
<tr>
<td>Energy Smart Services</td>
<td>Incentives</td>
<td>Up to 70% of cost</td>
<td>Seattle City Light 206.684.3254</td>
<td><a href="http://www.seattle.gov/saveenergy">www.seattle.gov/saveenergy</a></td>
</tr>
</tbody>
</table>

**Notes:**
1. Financial incentives are provided to reduce the cost of installing energy efficient systems in new construction or major remodel projects. Measures include insulation, glazing, HVAC, lighting, transformers and process loads. Additional assistance to cover commissioning of the measures may be available.
2. Construction grants for new facilities and major remodels. Whole building incentives based on energy performance improvements beyond code, using either an energy modeling or prescriptive approach. Energy-efficiency measures include HVAC, building envelope and lighting. Incentives also available for individual measures.
3. Tax deduction for new or existing commercial buildings that save at least 50% of the heating and cooling energy of a building that meets ASHRAE Standard 90.1-2001. Partial deductions can be taken for measures affecting any one of three building systems: the building envelope, lighting, or heating and cooling systems.
4. Rebates for commonly-applied efficiency upgrades including: boiler tune-ups, programmable thermostats, and high-efficiency commercial clothes washers and kitchen equipment.
5. Industrial customers can take advantage of incentives for qualifying process improvements that save energy. This includes: HVAC equipment such as chillers, air conditioners, controls such as daylight and central lighting, efficient transformers and other rate saving opportunities.
6. Incentives to small businesses for replacing existing inefficient lighting with approved energy efficient lighting equipment.

**Additional Resources:**
- www.seattle.gov/dpd/greenbuilding - City of Seattle Department of Planning & Development
- www.seattle.gov/saveenergy - City of Seattle Department of Planning & Development
## Seattle Green Building Incentives
### Commercial Projects

<table>
<thead>
<tr>
<th>Incentive Type</th>
<th>Description</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Renewable Energy Investment Incentives</strong></td>
<td>Tax credits for 30% of cost of qualified solar water heating and photovoltaic systems, certain solar lighting systems, small wind systems and geothermal heat pumps.</td>
<td><a href="http://www.energycodes.org/business">www.energycodes.org/business</a> go to &quot;On-Site Renewables&quot;</td>
</tr>
<tr>
<td><strong>Saving Water Partnership Rebate</strong></td>
<td>Per fixture rebate for replacing older flush valve toilets and urinals with newer water-efficient models. Through September 30, 2009, free toilets or per fixture rebate for replacing all tank toilets with WaterSense labeled toilets.</td>
<td><a href="http://www.watersaving.org">www.watersaving.org</a> go to &quot;View Rebates&quot;</td>
</tr>
<tr>
<td><strong>Water Smart Technology Program Rebate</strong></td>
<td>Incentives for replacing water-wasting equipment or technologies with efficient ones. Rebates available for commercial laundry equipment, food steamers, cooling and refrigerator systems, medical equipment and industrial processes.</td>
<td></td>
</tr>
<tr>
<td><strong>Saving Water Partnership Rebate</strong></td>
<td>Rebates for upgrading existing or for new irrigation systems with evapotranspiration controllers, soil moisture sensors, rain sensors, weather-based automated scheduling and other water-conservation features.</td>
<td><a href="http://www.watersaving.org">www.watersaving.org</a> go to &quot;View Rebates&quot;</td>
</tr>
<tr>
<td><strong>Saving Water Partnership Rebate</strong></td>
<td>New construction incentives for installation of high-efficiency toilets, urinals, showerheads, aerators and coin-op washers.</td>
<td><a href="http://www.watersaving.org">www.watersaving.org</a> go to &quot;View Rebates&quot;</td>
</tr>
<tr>
<td><strong>Saving Water Partnership Rebate</strong></td>
<td>Rebate for connecting the main water meter to a building management system to track water consumption in real time; rebate of $10 per gallon/day saved using other qualified technologies.</td>
<td><a href="http://www.watersaving.org">www.watersaving.org</a> go to &quot;View Rebates&quot;</td>
</tr>
</tbody>
</table>

Please check incentive websites for the most up to date information.

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**APPENDIX E**
# Seattle Green Building Incentives

## Commercial Projects

**Energy Analysis Assistance**
- Energy Smart Services
- Seattle City Light 206.684.3254
- Free technical assistance to help businesses identify and model electrical efficiency projects. SCL can share the cost of complex technical analyses aimed at identifying electrical energy conservation projects.
- www.seattle.gov/saveenergy
- Up to 100% of analysis

**Energy Analysis Assistance**
- Energy Smart Services
- Seattle City Light 206.684.3254
- Financial support for professional engineering services to research and evaluate various building system designs.
- www.seattle.gov/saveenergy
- 50% to 100% of cost

**Facility Assessment Audit**
- Technical Assistance
- Seattle City Light 206.684.3254
- A customer support service for large and medium commercial and industrial customers. An energy management professional will assess a facility's resource and operation efficiencies, identify efficient improvement opportunities and align utility services to support the business.
- www.seattle.gov/saveenergy
- Free

**Priority Green Technical Assistance**
- Seattle Dept. of Planning and Development 206.684.7744
- Permitting assistance for innovative projects that will serve as visible models of high performance and sustainable development. Program provides technical assistance and priority land use and building permit review.
- www.seattle.gov/dpd/Permits/Permits go to “Process Overview” then “Priority Green Permitting”
- Free

**Downtown Density Bonus**
- Seattle Dept. of Planning and Development 206.615.1094
- For projects in the downtown core, the first increment of additional floor area above the base floor area ration (FAR) can be gained by projects achieving a LEED Silver rating. Seattle Municipal Code 23.49.011.
- www.seattle.gov/DPD/Planning/Downtown%5FSFZoning%5FSFChanges/Overview/
- Bonus

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City Green Building's mission is to make green building standard practice in Seattle through education, technical assistance and incentives.

Please contact Rebecca Baker with corrections, additions or other information on Incentive programs. rebecca.baker@seattle.gov or 206.615-1171

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**APPENDIX E**
# Multi-family

[City of Seattle Department of Planning & Development](http://www.seattle.gov/dpd/greenbuilding)

## Built Smart
Rebate

- **Seattle City Light**
- 206.684.3800

Rebates for efficiency measures, including: walls, ceilings, floors, heat pump and fan upgrades, high-performance thermostats, windows and doors.

- [www.seattle.gov/light/Conserve](http://www.seattle.gov/light/Conserve)
- go to the “Conservation Resources for" select “Developer, Architect, Builder”

## Retrofit Incentives
Rebate

- **Puget Sound Energy**
- PSE Energy Advisor 1.800.562.1482

Available for the energy efficiency of existing apartment and condominium buildings with five or more attached units with space heating and/or water heating supplied by PSE natural gas service.

- [www.pse.com](http://www.pse.com)
- go to “For Your Business”
- then “Multifamily Efficiency Programs & Incentives”

## New Construction Incentives
Rebate

- **Puget Sound Energy**
- PSE Energy Advisor 1.800.562.1482

Equipment rebates for PSE customers for gas-fired high-efficiency furnaces, water heaters and on-demand tankless water heaters.

- [www.pse.com](http://www.pse.com)
- go to “For Your Business”
- then “Multifamily Efficiency Programs & Incentives”

## Energy Efficiency Tax Incentives
Tax Credit

- **Internal Revenue Service**

Home builders are eligible for a $2,000 tax credit for a new energy efficient home that achieves 50% energy savings for heating and cooling over the 2004 International Energy Conservation Code (IECC) and supplements. At least 1/5 of the energy savings must come from building envelope improvements. This credit applies to units in multi-family buildings three-stories or less. Units in four- and five-story multi-family buildings may qualify. See specifications for Attached Housing Qualifications.

- [www.energystar.gov](http://www.energystar.gov)
  - go to the “Tax Credit for Energy Incentive” on the bottom left
  - select “Tax Deductions for Commercial Buildings”

## Renewable Energy Production Incentive
Tax Credit

- **Seattle City Light**
- 206.684.3254

Yearly production incentive payments for Seattle City Light customers generating electricity from solar, wind or anaerobic digesters. Incentive extends until 2020.

  - go to “Install Solar”

## Renewable Energy Tax Incentive
Tax Credit

- **Internal Revenue Service**

A 30% tax credit is available for new multifamily buildings three-stories for less (through 2016) for: photovoltaics, solar water heaters, geothermal heat pumps, small wind energy systems, fuel cells. Units in four- and five-story multi-family buildings may qualify. See specifications for Attached Housing Qualifications.

- [www.energystar.gov](http://www.energystar.gov)
  - go to the “Tax Credit for Energy Incentive” on the bottom left
  - select “Tax Deductions for Commercial Buildings”

## Appendix E
### Multi-family

#### WATER

<table>
<thead>
<tr>
<th>Rebate Name</th>
<th>Contact Information</th>
<th>Rebate Amount</th>
<th>Details</th>
</tr>
</thead>
</table>
| **WashWise Rebate**                 | Seattle Public Utilities 206.684.3000                     | $100          | Rebate with purchase and installation of qualified energy and water-saving clothes washers. Applies in apartment and condo units or common area laundries.  
www.savingwater.org go to “View Rebates” |
| **LaundryWise Rebate**              | Seattle Public Utilities 206.615.1282                     | $100-$125     | Rebates for efficient coin-op machine used in a common-area laundry. Applies to Owners/Managers of Apartments and Condos.  
www.savingwater.org go to “View Rebates” |
| **Showerheads Discount**            | Puget Sound Energy PSE Energy Advisor 1.800.562.1482      |               | Discount on energy-efficient showerhead if you have a natural gas water heater with service provided by PSE on a new multi-family construction project.  
www.pse.com go to “For Your Business” then “Multifamily Efficiency Programs & Incentives” |
| **Showerheads & Aerator Rebate**    | Seattle Public Utilities 206.684.5955                     | Free-$125     | Free units or rebate for showerhead (1.5-2.0 gpm) and rebates for aerators (1.0 gpm) for new multi-family construction or major remodel.  
www.savingwater.org go to “View Rebates” |
| **Saving Water Partnership Rebate** | Seattle Public Utilities 206.684.5955                     | $100          | Free toilet or rebate for replacing old toilets with efficient FlushStar toilets in apartments or condos with four or more units.  
www.savingwater.org go to “View Rebates” |
| **Saving Water Partnership Rebate** | Seattle Public Utilities 206.684.5955                     | $50-$375      | Sprinkler Rebates for upgrading existing automatic sprinkler systems or installing a “smart” controller on a new system.  
www.savingwater.org go to “View Rebates” |

#### LIGHTING

<table>
<thead>
<tr>
<th>Rebate Name</th>
<th>Contact Information</th>
<th>Discount Amount</th>
<th>Details</th>
</tr>
</thead>
</table>
| **Fixtures Discount**               | Seattle City Light Conservation Help Line 206.684.3800    | 85%             | Rebates for interior and exterior common area lighting upgrades as well as upgrades in individual tenant units. Applies to apartment buildings, condominiums or cooperatives with five or more units.  
www.seattle.gov/light/Conserve go to “Conservation Resources for” then select “Multifamily Building Owner” |

Please check incentive websites for the most up to date information.

**APPENDIX E**
<table>
<thead>
<tr>
<th>Multi-family</th>
<th>City Green Building Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority Green Technical Assistance</td>
<td>Technical Assistance for innovative projects that will serve as a visible models of high performance and sustainable development. Program provides technical assistance and priority land use and building permit review.</td>
</tr>
<tr>
<td>Seattle Department of Planning and Development 206.684.7744</td>
<td><a href="http://www.seattle.gov/dpd/Permits/Process_Overview">www.seattle.gov/dpd/Permits/Process_Overview</a></td>
</tr>
<tr>
<td>Downtown Density Bonus Incentive</td>
<td>For projects in the downtown core, the first increment of additional floor area above the base floor area ration (FAR) can be gained by projects achieving a LEED Silver rating. Seattle Municipal Code 23.49.011.</td>
</tr>
<tr>
<td>Seattle Department of Planning &amp; Development 206.684.8850</td>
<td><a href="http://www.seattle.gov/dpd/GreenBuilding">www.seattle.gov/dpd/GreenBuilding</a> go to “Public Policy Initiatives” then “Development Incentives”</td>
</tr>
<tr>
<td>Built Green Grant</td>
<td>Grants help offset the cost of certifying and designing innovative green projects.</td>
</tr>
<tr>
<td>Master Builders Association 425.460.8238</td>
<td><a href="http://www.builtgreen.net/incentive.html">www.builtgreen.net/incentive.html</a></td>
</tr>
<tr>
<td>Built Green Grant</td>
<td>Green building insurance coverage for green certified property owners, for-profit developers and non-profit housing organizations providing affordable housing.</td>
</tr>
<tr>
<td>Cascade Risk Placement 425.452.1115</td>
<td>call for more information</td>
</tr>
<tr>
<td>Recycling Rebate</td>
<td>One time credit available for buildings with five or more units who sign up for recycling education training.</td>
</tr>
<tr>
<td>Seattle Public Utilities 206.684.3000</td>
<td><a href="http://www.seattle.gov/util/Services">www.seattle.gov/util/Services</a> go to “Recycling” then “For Apartment Owners” then “$100 Rebate for Apartments”</td>
</tr>
</tbody>
</table>

City Green Building's mission is to make green building standard practice in Seattle through education, technical assistance and incentives.

Please contact Rebecca Baker with corrections, additions or other information on incentive programs. rebecca.baker@seattle.gov or 206.615-1171
# Seattle Green Building Incentives

## Home Owner

### Building Efficiency

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>HomeWise Grant/Loan</td>
<td>Weatherization program to repair owner-occupied single-family homes or condos with low to moderate income households. Grants and loans cover a range of repair work includes: insulation, air sealing, window replacement, and heating equipment upgrades.</td>
<td>Varies</td>
</tr>
<tr>
<td>Seattle Office of Housing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>206.684.0244</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Efficiency Existing Homes</td>
<td>Tax credits are available in 2009 &amp; 2010 for existing homes for: Windows and Doors, Insulation, Roofs (Metal and Asphalt), HVAC, Water Heaters (non-solar), and biomass stoves.</td>
<td>30% of system</td>
</tr>
<tr>
<td>Internal Revenue Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Efficiency New Home</td>
<td>Home builders are eligible for a $2,000 tax credit for a new energy efficient home that achieves 50% energy savings for heating and cooling over the 2004 International Energy Conservation Code (IECC) and supplements. At least 1/5 of the energy savings must come from building envelope improvements.</td>
<td>$2,000 credit</td>
</tr>
<tr>
<td>Internal Revenue Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy Efficiency Manufactured Home</td>
<td>Home builders are eligible for a $1,000 tax credit for a new manufactured home achieving 30% energy savings for heating and cooling over the 2004 IECC and supplements (at least 1/3 of the savings must come from building envelope improvements), or a manufactured home meeting the requirements established by EPA under the ENERGY STAR program.</td>
<td>$1,000 credit</td>
</tr>
<tr>
<td>Internal Revenue Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insulation Rebate</td>
<td>Weatherization rebates for Seattle PSE customers with gas heated homes. Rebates cover floor, wall, roof, and duct insulation as well as window replacement.</td>
<td>Up to $1,600</td>
</tr>
<tr>
<td>Puget Sound Energy PSE Energy Advisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.800.562.148</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficient Furnace Rebate</td>
<td>Equipment rebates for Seattle PSE gas customers for gas-fired high-efficiency furnace.</td>
<td>$30</td>
</tr>
<tr>
<td>Puget Sound Energy PSE Energy Advisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.800.562.148</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Heating

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulation Rebate</td>
<td>Weatherization rebates for Seattle PSE customers with gas heated homes. Rebates cover floor, wall, roof, and duct insulation as well as window replacement.</td>
<td>Up to $1,600</td>
</tr>
<tr>
<td>Puget Sound Energy PSE Energy Advisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.800.562.148</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficient Furnace Rebate</td>
<td>Equipment rebates for Seattle PSE gas customers for gas-fired high-efficiency furnace.</td>
<td>$30</td>
</tr>
<tr>
<td>Puget Sound Energy PSE Energy Advisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.800.562.148</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other Resources

- [www.seattle.gov/dpd/greenbuilding](http://www.seattle.gov/dpd/greenbuilding)
## Seattle Green Building Incentives

### Home Owner

#### Lightening

<table>
<thead>
<tr>
<th><strong>Twist and Save</strong></th>
<th>Discount</th>
<th>Energy Star® CFLs at deeply discounted prices available at most drug, home improvement, department and hardware stores. Limit 24 per customer. A complete list of retailers is available on the twist and save website.</th>
</tr>
</thead>
</table>
|                    |          | www.seattle.gov/twistandsave  
|                    |          | www.pse.com/solutions/foryourhome  go to “Lighting” |

#### Water

<table>
<thead>
<tr>
<th><strong>Wash Wise</strong></th>
<th>Rebate</th>
<th>Rebate with purchase and installation of qualified energy and water-saving clothes washers. Applies to single-family homes, apartments or condo buildings.</th>
</tr>
</thead>
</table>
| Gas: PSE Energy Advisor 1.800.562.1482  
Electric: Seattle City Light 206.684.3800 |          | www.washwiserebate.com |

<table>
<thead>
<tr>
<th><strong>Water Heating</strong></th>
<th>Rebate</th>
<th>Rebate for purchase of an Energy Star qualified natural gas water heater or tankless on-demand water heater.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puget Sound Energy PSE Energy Advisor 1.800.562.1482</td>
<td></td>
<td><a href="http://www.pse.com/solutions/foryourhome">www.pse.com/solutions/foryourhome</a>  go to ‘water heating’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Showerheads and Aerators</strong></th>
<th></th>
<th>Efficient showerhead and bathroom-faucet aerators available to single-family residential households with natural gas water heat from Puget Sound Energy.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Saving Water Partnership</strong></th>
<th>Rebate</th>
<th>Sprinkler rebates for upgrading existing automatic sprinkler systems or installing a “smart” controller on a new system.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seattle Public Utilities 206.684.5955</td>
<td></td>
<td><a href="http://www.savingwater.org">www.savingwater.org</a>  go to “View Rebates”</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Rainwise</strong></th>
<th>Rate Reduction</th>
<th>Incentive package to encourage on-site stormwater management measures such as: installation of rainwater cisterns, green roofs and rain gardens; reduced impervious surfaces.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seattle Public Utilities 206.386.9133</td>
<td></td>
<td><a href="http://www.seattle.gov/util/rainwise">www.seattle.gov/util/rainwise</a></td>
</tr>
</tbody>
</table>

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Please check incentive websites for the most up to date information.

**Appendix E**
<table>
<thead>
<tr>
<th><strong>City Green Building Incentives</strong></th>
<th><strong>Home Owner</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Renewable Energy Incentives</strong></td>
<td>Consumers who install solar energy systems (including solar water heating and solar electric systems), small wind systems, geothermal heat pumps, and residential fuel cell and micro-turbine systems can receive a 30% tax credit for systems placed in service before December 31, 2016.</td>
</tr>
<tr>
<td><strong>Tax Credit</strong></td>
<td><a href="http://www.energy.gov/taxbreaks.htm">www.energy.gov/taxbreaks.htm</a></td>
</tr>
<tr>
<td><strong>Internal Revenue Service</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Renewable Energy Incentives</strong></td>
<td>Annual incentive payments through June 2014 for metered renewable energy generation owned by Seattle City Light customers. Applies to solar electric, wind and anaerobic digester systems.</td>
</tr>
<tr>
<td><strong>Annual Payments</strong></td>
<td><a href="http://www.seattle.gov/light/conserve/cgen">www.seattle.gov/light/conserve/cgen</a></td>
</tr>
<tr>
<td><strong>Seattle City Light</strong></td>
<td></td>
</tr>
<tr>
<td><strong>206.684.3800</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Refrigerator Recycling Rebate</strong></td>
<td>Rebate plus free pick up for your working refrigerator or freezer.</td>
</tr>
<tr>
<td><strong>Refrigeration</strong></td>
<td><a href="http://www.seattle.gov/light/conserve/resident">www.seattle.gov/light/conserve/resident</a></td>
</tr>
<tr>
<td><strong>Seattle City Light</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1-877-577-0510</strong></td>
<td></td>
</tr>
</tbody>
</table>

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**Appendix E**