

CITY OF PORTLAND, MAINE
Agenda

Green Building Incentive Task Force

DATE: 2/24/2011

TIME: 12:00 PM

LOCATION: Room 209, City Hall

AGENDA

1. Review and approve of GBITF minutes from March 24, 2011.
2. Review of Green Building Programs in Boston and San Diego County.
3. Further Discussion on:
 - a Development of Green Building Incentives; and
 - b Green Building Ordinance Amendments.
4. Confirm Date for Next Meeting: The next meeting is currently scheduled for April 28, 2011.
5. Adjourn

1. 2-24-2011 Packet

Documents: [GBMEETINGMATERIAL02242011.PDF](#)



PORTLAND MAINE

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MEMORANDUM

To: Green Building Incentive Task Force

From: Ian Houseal, Sustainability Coordinator

Date: February 24, 2010

Re: Incentive Program Nationwide and the Green Building Ordinance

As the Task Force considers the development of a Green Building Incentive Program for the City and revisions to the Green Building Ordinance, the following information is provided:

1. Green Building Incentives That Work: A Look at How Local Governments Are Incentivizing Green Development – A survey of green building incentive program nationwide.
2. Examples of Green Building Incentive Programs
 - a. Arlington County, Virginia
 - b. Chicago, Illinois
 - c. Portland, Oregon
3. Green Building Ordinance
4. Waiver letters of the Green Building Ordinance for the Baxter Building and the Cumberland Cold Storage Building.



Green Building Incentives That Work: A Look at How Local Governments Are Incentivizing Green Development

**Prepared for and Funded by
The National Association
of Industrial and Office Properties
Research Foundation**

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About NAIOP

The National Association of Industrial and Office Properties is the nation's leading trade association for developers, owners, investors and other professionals in industrial, office and mixed-use real estate. Founded in 1967, NAIOP comprises more than 16,500 members in 55 North American chapters and provides networking opportunities, educational programs, research on trends and innovations and strong legislative representation. For more information, visit www.naiop.org.

About the NAIOP Research Foundation

The NAIOP Research Foundation was established in 2000 as a 501(c)(3) organization to support the work of individuals and organizations engaged in real estate development, investment and operations. The Foundation's core purpose is to provide these individuals and organizations with the highest level of research information on how real properties, especially office, industrial and mixed-use properties, impact and benefit communities throughout North America. Funding for the Research Foundation's activities comes from the generous support of the Governors, annual gifts from NAIOP members, and underwriting from the National Association of Industrial and Office Properties (NAIOP). For more information, visit www.naiopr.org.

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Research Foundation

There are many ways to give to the Foundation and support projects and initiatives that advance the commercial real estate industry. If you would like to do your part in helping this unique and valuable resource, please contact Bennett Gray, senior director, at (703) 904-7100 ext. 168, or gray@naiop.org.

Requests for funding should be submitted to research@naiop.org. For additional information, please contact Sheila Vertino, NAIOP Research Foundation, 2201 Cooperative Way, Herndon, VA, 20171, at (703) 904-7100, ext. 121 or Vertino@naiop.org.

Disclaimer: Due to the fast-changing sustainability environment, references current as of October 2007 are subject to change in the future.

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Executive Summary

The NAIOP Research Foundation retained Yudelson Associates in the summer of 2007 to investigate local government incentive programs, specifically for green buildings. Through an extensive literature review, Yudelson Associates identified and characterized local and state incentives for green building construction by the private sector. Additionally, Yudelson Associates conducted three separate online surveys of developers, architects and local government officials, with email and telephone interviews used to supplement survey results.

The main categories of green building incentives we found were:

1. Priority in building permit processing and plan review, sometimes with a requirement for posting a bond to guarantee the result.
2. Tax incentives, particularly property tax abatements, for projects achieving LEED Silver or better certification.
3. Increased Floor-to-Area (FAR) ratios, which allow a developer to construct more building area than allowed by applicable zoning.

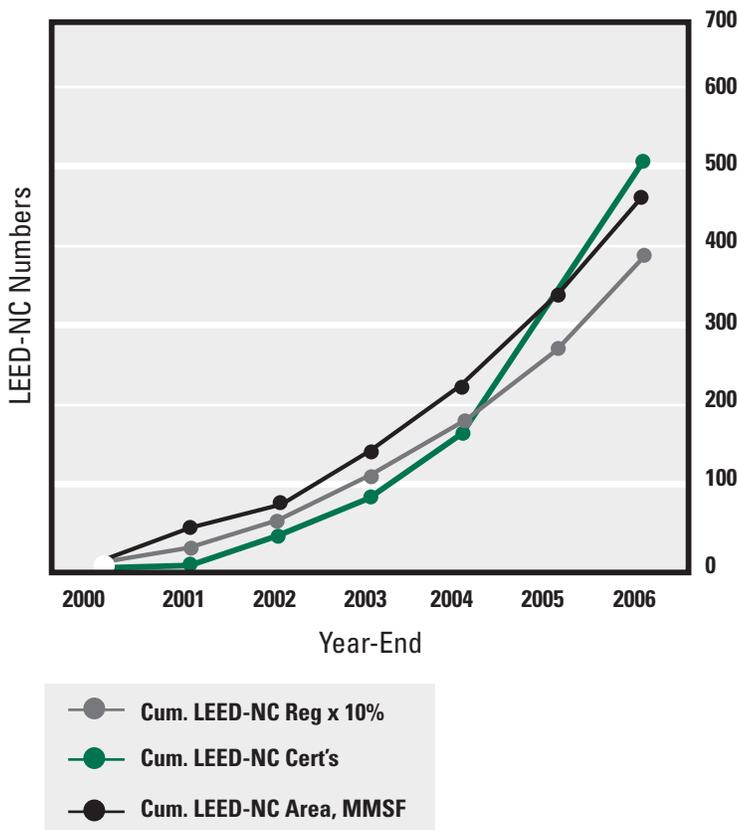
There are literally hundreds of different incentive programs for green buildings. Developers need to research what each local jurisdiction offers and make sure that they are “at the table” when such incentives are being discussed and adopted. Our surveys revealed that developers are aware of these incentives, but don’t always use them. One reason is that the timing of development decisions and the response time of local government don’t always mesh together. In a nutshell, developers need to make quick decisions, and governments prefer to move more slowly to observe “due process.”

Finally, we recommend that developers take this list of incentives and use it to proactively lobby local governments with their preferred incentives when the subject of green buildings appears on the local agenda. Often, the experience of other government agencies is very persuasive to local jurisdictions wanting to take immediate action.

Introduction

The green building movement continues to grow at a rapid rate. In 2006, the U.S. Green Building Council's (USGBC) LEED green building rating system recorded a 50 percent increase in cumulative LEED-registered projects (those intending future certification) and nearly a 70 percent increase in LEED-certified projects (Figure 1). As of November 2007, more than 8,000 projects representing more than 1.5 billion square feet of space had registered under the LEED system and more than 1,100 projects had received certification.¹

Figure 1. LEED for New Construction Registered/Certified Project Growth, 2000-2006



¹ U.S. Green Building Council, unpublished data furnished to the author.

The Local Government Response

As of July 2007, more than 600 U.S. Mayors had signed the *U.S. Conference of Mayors' Climate Protection Agreement*, committing their cities by 2012 to reduce greenhouse gas emissions by seven percent compared with 1990 levels.² This level of local government involvement presages a rapid growth in green building incentives and regulations in the next few years.

Additionally, cities and counties are becoming the "celebrities" amongst the band of actors on the green building stage. With a lack of substantial federal and state green building legislation, locally-based, market-driven incentives are sprouting up in municipalities across the country. For example, in July of 2007, Howard County, Maryland passed Bill 47-2008 which included expedited permitting for projects aiming for LEED Gold or Platinum and granted a five-year property tax credit for projects obtaining LEED-NC and LEED-CS certification. About ten cities have already adopted municipal ordinances and regulations requiring the private sector to certify all future projects above a certain size, including such large cities as Boston and Washington, DC, with timetables ranging from the end of 2007 out to 2012.³

Most municipal actions represent *market-driven incentives*, but they are by no means the only types of incentives in practice. Each city and county seems to tailor the incentive process to fit best with their particular needs. Thus, the array of means supporting green building is growing monthly as more municipalities take action. There is certainly a wealth of knowledge and experience from which other cities may gain. Our research sought to uncover the scope of green building incentives being offered across local governments in the U.S. and to assess what optimal mix of economic and procedural incentives may further green building goals in other municipalities, while assisting developers who want to "build green."

² U.S. Conference of Mayors, http://usmayors.org/climateprotection/climateagreement_071307.pdf, accessed September 15, 2007.

³ U.S. Green Building Council, <https://www.usgbc.org/ShowFile.aspx?DocumentID=691>, accessed September 15, 2007.

Representative Case Studies

Just about every jurisdiction offering green building programs also has policies and programs that go with the incentives. A developer should take the time to become familiar with the full range of potential benefits offered by the city or county. Very often, city staffs are quite knowledgeable not only about their programs, but about green building design and construction as well.

Arlington County, VA

Started in 1999, Arlington County has a very prolific Green Building program including a green building density bonus program. Through this program, a builder may request a slightly larger building than is normally allowed by the County Code if the project gains official LEED certification at any of the four levels. The amount of extra space depends on the award level and other project specifics. This density incentive applies to all types of development, not solely commercial office projects. Please see <http://www.arlingtonva.us/departments/EnvironmentalServices/epo/EnvironmentalServicesEpoIncentiveProgram.aspx> for further details.

Arlington County is also known for its Green Building Fund. In 2003, all developers must contribute \$0.03 per square foot to the fund (this is equivalent to the cost of LEED certification for most projects.) Projects that achieve at least a basic LEED certification from the USGBC receive a refund of their contribution. The Green Building Fund is then used to provide educational and technical assistance to the community and developers.

Arlington County's Green Building Program is still growing and, most recently, they are touting a Green Home and Remodeling Resource Directory to spotlight green builders.

Chicago, IL

The City of Chicago encourages builders to build sustainably in a variety of ways. For one, Chicago's Department of Construction and Permits (DCAP) touts a Green Permit Program which offers expedited permit processing. Projects accepted into the Program can receive their permits in as few as 15 business days depending on the complexity of the project. Projects which go above and

beyond the bare minimum of LEED certification may also qualify for waiver of plan review fees.

Chicago also is giving \$5,000 in grants and offers density bonuses to small businesses that include green roofs in their building design. Furthermore, Chicago has participated in Green Building pilot projects which essentially test the waters for developers and make building sustainably less risky. Finally, Chicago has a comprehensive *Green Building Education and Awareness Program* that highlights the work of green builders and seeks to drive demand for their product. For more information, please see http://www.aia.org/static/state_local_resources/adv_sustainability/Permitting%20and%20codes/GreenPermitBrochure.pdf.

San Diego County, CA

San Diego County's Green Building program offers various incentives to commercial green building projects. For example, a builder can obtain expedited plan checks saving approximately 7 to 10 days on a project's timeline. Developers may also qualify for a 7.5% reduction in plan check and building permit fees for projects meeting program requirements. (Note that these incentives only apply to projects in unincorporated areas of the County.) At least one of the following measures must be implemented to qualify for the incentives:

1. Natural Resource Conservation
 - **Recycled content materials.** (a) Show that 20% or more of the primary materials being used in the building system contain 20% or more post-consumer recycled content. Any reused materials will be found to satisfy the 20% post-consumer recycled content requirement; or, (b) Show that at least one primary building material (such as roofing) is 50% or more post-consumer recycled content. (This can be fairly easy to do for projects pursuing LEED certification, since the documentation is required for LEED purposes).
2. Water Conservation
 - **Graywater Systems.** The installation of a graywater system will qualify for the incentives. Graywater is the wastewater produced from bathtubs, showers and clothes washers. In order to conserve water, it can be used for irrigation through subsurface

distribution systems. A permit is required from the County Department of Environmental Health for the graywater system.

3. Energy Efficiency

- **Energy Use Below State Energy Code Standards.** Residential projects must exceed the minimum California state "Title 24" standards by 15%, and commercial projects must exceed the standards by 25% qualify for the Green Building Incentive Program.

Please see <http://www.sdcounty.ca.gov/dplu/greenbuildings.html> for further details. San Diego's Regional Energy Office is active in offering training, design assistance and technical support for public and private-sector green building projects.

Seattle

Seattle has a variety of green building incentives. First and foremost is Seattle's density bonus incentive. A project must achieve LEED Silver to be eligible for the greater FAR and density bonus. However, if the applicant for this bonus fails to deliver a timely report specified by the city, a \$500/day penalty will be assessed. For more information, please visit: http://www.seattle.gov/dpd/stellent/groups/pan/@pan/@sustainableblding/document.s/web_informational/dpdp_018423.pdf. Seattle partners with its commercial and industrial developers on water issues as well. The *Water Smart Technology* Program offers financial assistance to qualified water conservation projects for technical research and installation making water conservation a financially feasible venture. For further information: (http://www.seattle.gov/util/Services/Water/For_Commercial_Customers/WATERCONS_200311261707523.asp). Lastly, Seattle's Lighting Design Lab offers free design and technical assistance to projects, especially daylighting modeling. (http://www.seattle.gov/util/Services/Water/For_Commercial_Customers/WATERCONS_200311261707523.asp).

Portland

Portland touts a Green Investment Fund which offers grants up to \$225,000 to commercial, industrial, residential and mixed-used public and private entities. However, this program is very competitive so developers may not get much use out of it. For more information, please see: <http://www.portlandonline.com/osd/index.cfm?c=42134>.

State of Oregon

Oregon provides a Sustainable Building Tax Credit for buildings achieving Silver, Gold or Platinum LEED certification. Credit is calculated based on the gross square footage of all conditioned spaces. For a large LEED Gold project, the credit might be worth \$1.50 per sq.ft. off state taxes. The Oregon 35% five-year Oregon Business Energy Tax Credit is also available to projects that fulfill certain energy conservation, equipment efficiency and renewable energy systems requirements. A pass-through option is also available for businesses that choose to pass their tax credit onto a partner in exchange for an equivalent cash payment. For preliminary information about the Oregon tax credit, please visit: <http://www.oregon.gov/ENERGY/CONS/BUS/docs/betcbro.pdf>. Oregon is also home to the Oregon Energy Trust's *Business Energy Solutions Program* which assists businesses in identifying energy savings in existing buildings and in new buildings. Financial incentives and technical support are available for such measures as energy modeling, design assistance and installing high-efficiency HVAC equipment. Please see the Energy Trust's website for further details: <http://www.energytrust.org/newbuildingefficiency/index.html>.

New York State

The New York State Energy Research and Development Authority (NYSERDA) provides computer modeling, design charrette coordination, assistance in obtaining LEED® certification, Executive Order 111 assistance, New York State Green Buildings Tax Credit assistance (for further information: <http://www.dec.ny.gov/regs/4475.html#17897>), green materials recommendations, commissioning and life cycle costing analysis to building design teams to help make new and rehabilitated commercial, industrial and institutional buildings green. Green Building services are offered under the New Construction program PON 1155. Energy-efficiency services to new building construction and renovations are offered under the New Construction Program on a first-come first-serve basis. Capital cost incentives are calculated using energy performance and technical assistance is provided on a cost-shared basis. Since 1999, NYSERDA has given more than \$92 million in federal and state funds to provide assistance for projects affecting more than 137 million square feet of building space in New York State.

Cincinnati, Ohio

On May 9, 2007, the City of Cincinnati amended legislation that established and defined The City of Cincinnati Community Reinvestment Area, adding an automatic 100% property tax exemption for developments that meet a minimum of LEED Certified for newly constructed or rehabilitated commercial or residential buildings. For buildings that meet LEED Certified, Silver and Gold, the maximum amount of abatement per dwelling unit is \$500,000 over 15 years for new construction or over 10 years for renovation/remodel. There is no maximum for LEED Platinum. For details, see: <http://www.usgbc.org/ShowFile.aspx?DocumentID=1974>.

Survey Approach

We started with a literature search of available information on green building incentives offered by state and local government. Most of the information comes from four sources: the USGBC web site, which attempts to keep up with all government programs and incentives favoring green buildings; the Directory of State Incentives for Renewable Energy⁴; NAIOP's Stateside Associates' iStateLink portal; and the general green building literature available on the Web. Our approach was then to categorize incentives in terms that made sense for developers.

We decided to take advantage of a previous NAIOP survey and include developers who had responded to that survey in this new survey. Additionally, we used Yudelson Associates' database of government officials, architects and developers (this list is biased toward the western U.S., since that is where most of Yudelson Associates' contacts are located.) We administered a 20-question survey using the Survey Monkey website.⁵ Following the initial survey requests via email, we also used the reminder tool in Survey Monkey to follow up with people who hadn't responded by the original deadline. Additionally, we followed up selected interviews with some of the people who indicated they would be willing to talk with us, either in person or via email.

⁴ Available at www.dsireusa.org.

⁵ Survey Monkey, www.surveymonkey.com.

Survey Respondents

The numbers of survey respondents were as follows. Percentages are shown in the table below and a summary of survey results by respondent type can be found on pages 13-15 and in the appendix at pages 24-30.

Developers:	53
Architects:	37
Local Government:	22
Total:	112

Survey	# Responses/ Total Sent	% Responses/ Total Sent
Developers	53/295	18%
Architects	37/201	18%
Municipal Government Officials	22/47	47%

Local government had the highest percentage of respondents. Most of those surveyed are highly motivated to promote green buildings. Responses just short of 20 percent by developers and architects can be seen as positive, since this was an online survey, and response rates are typically low for such polls. Please refer to pages 13-15 for a summary of survey results by respondent type.

Characteristics of survey respondents. Of the total number of survey respondents, 48 percent had experience in five or more green building projects, 95 percent were members of the USGBC, 75 percent were LEED Accredited Professionals and 78 percent had personally participated in a LEED-registered project. By these numbers, this group of respondents is very experienced with green buildings. In terms of geographic location of projects, 60 percent were in the West or Southwest, and only five percent represented Canadian projects. Finally, 45 percent had developed or worked in a location that offered green building incentives.

In terms of green building achievements, 69 percent of respondents had secured a LEED Gold or Platinum designation for at least one project. However, 28 percent thought that green buildings carried a four percent or more cost premium. One developer surveyed stated, "There are definitely added costs to doing green - even at two to four percent, in a competitive market with



outrageously high construction costs, it can be a barrier. Also, developers face many risks in getting a project completed. It's natural that they would want to streamline their process by working with the same team over and over. If that developer's team doesn't know how to build green, he/she will need a carrot to mentally get over the hurdle that it will take to decide to do green, because it WILL add time, confusion and cost the first time you do it (especially if it's a LEED project, and not just something green-washed). If a city offers priority permitting and \$15-20k of incentives that will likely be enough to get the developer to take the leap." This was not a lone voice amongst those surveyed. When asked why local incentive may or may not help build local green building momentum, another developer stated that "it would help pay for some of the added costs of the building."

Additionally, 48 percent thought that *perceived* cost increases were still the biggest barriers to building more green buildings. One developer said, "I believe that our perception is built on reality. The cost of third party testing and certification is a significant part of it. Certified lumber is also a potential big cost item since there are so few sources and availability and cost will be affected." Furthermore, 40 percent thought they had NOT received an adequate amount of publicity or new business for the decision to build green. Developers and architects both expressed interest in "increasing visibility."

Findings

Incentives. From the survey, the following incentives were offered by various local governments, listed in descending order of frequency. (Answers below the five percent level of frequency are not listed).

Types of Local Incentives	Percent Offering
Incentive payment from a utility energy-efficiency program	57%
Direct monetary payment from a city or county (grant, rebate or reimbursement)	52%
Expedited permit processing	36%
Marketing/publicity/awards	35%
State income tax credit	29%
Property or sales tax rebates or abatements	22%
Density bonus	21%
Access loans/loan funds	17%
Full or partial refunds for development fees	9%

Interestingly, more than half the incentives involved direct payments, either from utilities or local governments. About one-third of the agencies offered some “intangible” but still valuable incentive such as expedited permit processing or assistance with publicizing the project. Less than a quarter of agencies offered tax incentives or density bonuses, and less than ten percent offered fee reductions.

Looked at another way, of the nine most frequent incentives for green buildings, energy efficiency and renewable energy, two-thirds represent some form of monetary inducement. This suggests that local and state governments view money as the major issue for encouraging developers to “go green,” based likely on the perception that green buildings cost more and need to be incentivized with funds to lower costs. One government official put it this way, “When it comes down to it, it is about money. Would we not build ALL green IF we had the money for it?”

The survey also suggests that local governments may be missing a bet in not using such non-monetary incentives as expedited permit processing, density bonuses and assistance with marketing and publicity via awards and

other forms of recognition. For instance, one surveyed architect states, “What I observed in a group full of developers...they appeared to not care about green building, but faster permitting caught their attention.” In some areas, this change is already happening. For example, one county official stated in an interview “The County has already been approached to enter into partnerships to facilitate the timely delivery of entitlements and associated permits for green projects which we may follow up on.”

In probing what additional development incentives would make a difference to developers, the highest number of responses was for these four methods:

Expedited permit processing	13%
Tax reductions	13%
Density bonuses	12%
Expedited plan review	10%

The conclusion: money is important (in the form of tax reductions), but equally or more important are faster time to market, more certainty in the development approval process and additional flexibility to add more space if market conditions warrant.

Are local government incentives necessary to accelerate the growth of green buildings? In our survey, 62 percent said yes. Interestingly, 70 percent of responding local agencies required LEED certification for their own projects. This follows a general pattern: first cities do their own projects; then, with that experience they begin pushing the private sector to respond, typically with both non-monetary and monetary incentives. So far, most local jurisdictions have not made LEED certification mandatory, preferring the carrot to the stick. This could be working as one developer states “We are seeing in the last 12 to 18 months a significant amount of interest from many who were previously unconcerned. We are receiving RFP’s from major corporations who want a commitment to LEED from their developer.”

Two major classes of discoveries resulted from the study. The first was that there is a wide range of green building incentives in municipalities - priority permit processing, expedited plan reviews, loan funds, direct grants and tax credits to name a few. In Appendix A, we delineate the incentives we found and which jurisdictions offer them,

to aid developers, architects and government officials in understanding where efforts have been made and where opportunities exist.

The second finding related to the attitudes and wants of developers, architects, and municipal government officials with respect to green building incentives. In general, these groups were practical and business-oriented yet still optimistic for the goal of achieving sustainability in the built environment. One surveyed developer stated, "The incentives will stimulate enough activity to create the necessary infrastructure to bring the costs down." Developers were concerned with the financial feasibility of whatever incentives were proposed. Another developer revealed, "A proactive city that supports sustainability and streamlines the process would really help. *Time is money* for developers/owners/contractors." Additionally, developers were interested in the involvement of public stakeholders to gain buy-in, as well as what could be done to increase overall demand for green building. Another surveyed developer states, "Local examples, expertise and incentives seem more accessible and less strange when neighbors are involved."

What Developers Think. From the surveys, we have culled some of the most interesting and representative comments made by the developers who responded to the survey.

1. Survey Question: Which is the most significant barrier at this time to the rapid growth of green buildings?

The most significant barrier to the rapid growth of green buildings is perceived cost increase (41%). In developers' opinions, the second highest barrier is the lack of knowledge of how to build green (18%).

2. Survey Question: From your knowledge or direct experience, what two cities or counties (include state) do you think have the most successful green building incentives in place?

The most successful green building incentives are in Chicago (13%) and Portland, Oregon (9%).

Chicago:

- Priority permitting (i.e. Green Permit Program)
- WasteCap's Construction and Demolition Debris Recycling Training And Accreditation Program, for details see the City's Department of the Environment web site, www.cityofchicago.org/environment
- Green Roof Initiative
- Awards/Publicity (e.g. GreenWorks Award, Landscape Awards)

Portland:

- Publicity/Marketing (e.g. Build It Green! Home Tour)
- Free Technical Assistance (e.g. case studies, project guidebooks, etc.)
- Green Investment Fund, a competitive grant program that offers funds to industrial, commercial, residential and mixed-use projects.
- Commercial Incentives (e.g. Sustainable Building tax credit, Business Energy tax credit, see <http://www.portlandonline.com/osd/index.cfm?a=114662&c=41676> for additional information)
- Residential Incentives (e.g. Purchase and Renovation loans, Home Repair Loans, Multi-family Weatherization Program; for additional information, please see <http://www.portlandonline.com/osd/index.cfm?a=114658&c=41591>)

3. Survey Question: In your experience, what is the most compelling approach to consider building green aside from government or client requirement?

Respondents believe that the most significant incentive or trigger that has been effective in promoting green building is an internal philosophy to build green (44%). The second most significant trigger in their opinion is when business case benefits are recognized and desired by tenants (33%).

4. Survey Question: Besides direct monetary payments (grants, rebates, tax incentives, utility payments), which Green Building Incentives were/would be the most significant for you, in your choice to develop green projects?

Incentives that developers indicated would be the most significant for them and that they would like to see implemented include:

- a. Density bonuses (83%)
- b. Expedited permit processing (75%)
- c. Development fees partially or fully refunded (58%)
- d. Marketing/Good publicity / Awards (42%)
- e. Access Loans/Loan Funds (17%)

5. Interview Question: The following conclusion was gleaned from various follow-up interviews.

Builders want to have input into the incentives that will be offered or the requirements that will be imposed upon them, which is of course not surprising.

6. Survey Question: Please give one brief reason why you think local incentives will help build momentum for green building development.

Developers are concerned foremost with the financial aspects of green building. They support incentives because incentives assist in making green building a profitable venture. "Until customers are willing to pay a premium, incentives are necessary to make green projects feasible," said one. "Anything that makes it financially desirable will help people make the decision to do it," said another.

7. Interview Question: The following conclusion was gleaned from various follow-up interviews.

Some developers believe that the perceived costs match the actual costs. They believe that the costs are substantially higher to build green. As one experienced and large California developer of mixed-use communities said, "I believe our perception cost is built on reality. The cost of third party testing and certification is a significant part of it. We are presently going through an evaluation of both LEED-H and LEED-ND to understand where we are now, and where we will need to get to in order to be LEED certified. At that time we will have a better understanding of what the cost impacts are."

8. Survey Question: In your experience, what is the most important barrier at this time to the rapid growth of green buildings?

Some developers believe that there is a lack of knowledge of how to build green and that this is a substantial barrier to gaining green building momentum. There is some buy-in with larger corporations but there is a lack of knowledge on how to implement their vision. "I think there is a need to better publicize the information on how to build green to a larger audience. Our clients, mostly multinational corporations do have 'green' as one of the items in their Corporate Social Responsibility program. However, they do need our help in translating it into a ground level application," said one commercial broker in a large international firm.

Developers want cold, hard facts. They are interested in the bottom line. "How much will it cost me?" "How much would I gain from it?" are the questions being asked. One developer states "In a competitive market with outrageously high construction costs, it [extra costs for green building] would be a barrier."

Some developers believe that higher levels of LEED certification do not justify the costs of achieving them. "We typically do high quality design, but don't worry about LEED certification, especially at the higher

levels. You really need a client who wants to achieve higher ratings for other than hard economic benefits to justify the cost," said a Midwest developer.

9. Survey Question: Please give one brief reason why you think local incentives will help build momentum for green building development.

Developers understand that the development/construction industry is reluctant to make changes. Incentives will help developers get over this resistance. They believe that incentives are necessary to enable this change. One respondent said, "I believe that there are many compelling reasons to build green but that there are still also many perceived barriers (many arising out of incomplete or missing information). Providing incentives to bring down the barriers to adopting green building techniques helps develop the 'critical mass' of reasons to motivate people to at least try this approach." A broker echoed this sentiment: "Incentives may compel developers/builders to build green when they may be 'on the fence'."

To this point, one developer said, "If that developer's team doesn't know how to build green, he/she will need a carrot to mentally get over the hurdle that it will take to decide to do green, because it will add time, confusion and cost the first time you do it (especially if it's a LEED project, and not just something green-washed). If a city offers priority permitting and \$15-20K of incentives that will likely be enough to get the developer to take the leap."

Additionally, some developers believe that incentives are necessary to increase awareness among the development community that people's values are changing and that they should respond to these changes. Said one, "Every catalyst [project] helps to bring down costs and to raise awareness of importance of reducing impact of growth on earth."

Survey Results by Type of Respondent. Each of the three types of respondents, architects, developers and local government officials has a different perspective. Here we profile their responses.

Architects

- All of the architects had green building projects underway or unplanned.
- Government agencies and colleges/universities are the two most prevalent client bases (68% and 62% respectively).
- 86% are LEED accredited.

- 59% have designed projects in a city that offers green building incentives.
- Money from a utility energy efficiency program was the most common incentive offered (79%) as compared with direct municipal monetary payment from a grant, rebate or reimbursement (57%), property or sales tax rebates or abatements (43%), or state income tax credit (50%).
- 50% worked in cities that offered publicity, marketing or awards to their client base.
- Marketing/good publicity was cited by the most architects (71%) as the most influential incentive for them to persuade their clients to build green.
- 56% believe that perceived cost increases are most significant barrier.
- Answers to what was the most significant incentive that triggered or is effective at promoting green building were varied. The highest percentage (26%) said that the client requiring it as part of their policy was the significant incentive.
- 97% believe that local incentives will build momentum in the next three years.
- 60% believe that local incentives are necessary for green building's success.

Developers

- 50% of developers received priority permit processing (50%) with direct monetary payment (grant, rebate or reimbursement) and marketing/publicity and awards both trailing at 42%.
- *Density bonuses were stated as the most significant incentive to green building.*
- 41% believe that perceived cost increases are most significant barrier.
- Three percent said that they had no green building projects underway or planned.
- Locations of development projects were spread out, with a high of 27% of developers with projects on the West Coast.
- Only three percent of developers consider themselves as very experienced with green building (over 10 projects).
- No developers believe that good public relations or marketing benefits are most compelling reasons to consider building green.
- Developers perceived that Chicago and Portland were two cities with the most successful green building incentives (30% and 22% of developers respectively).

Government Officials

- 95% had green building projects underway or planned.
- 90% work in agencies that are members of the USGBC.
- 55% are LEED accredited.
- 68% have participated in a LEED project (any level).
- 50% work for an agency that offers green building incentives.
- 78% worked in cities or counties with incentive money from a utility energy efficiency program, 67% with direct monetary payment (grant, rebate or reimbursement).
- 60% stated that marketing/publicity was one of the most significant incentives they offered; 50% stated that density bonuses were one of the most significant incentives.
- 82% stated that their green building programs had formal policy support.
- 38% stated that their municipality mainly incentivizes green building by establishing councils or working groups to develop an overall plan of action for increasing green building; 25% said that they reward and celebrate current green building activities; another 25% said that they have legislated to require compliance with a standard; and 12.5% said that they have taken no action.
- 70% of agencies require LEED or equivalent for their own projects.
- 41% perceived that public contracting requirements were a barrier in governmental green building projects.
- 50% stated that most significant barrier to rapid growth of green buildings is perceived cost increases.
- Answers to what was the most significant incentive that triggered or is effective at promoting green building were varied. The highest percentage (26%) said that the internal philosophy to build green was the most significant incentive.

Conclusions

From the findings, we identified recommendations that would optimize the adoption of green building incentives in municipalities. Actions like creating incentives that affect a developer's bottom line, and increasing community awareness to the benefits of green building in order to induce greater consumer demand are just two of the proposed recommendations that naturally stem from the survey results.

Furthermore, developers, architects and government officials made it clear what incentives they wanted to see going forward. There was a wide range of incentives in this list and a need for customization based on locality was expressed. However, the most prevalent incentives desired were expedited permitting, tax reduction, density bonuses and reduced-cost building permits. To complement these incentives, those surveyed also wanted technical support for these new mechanisms. Some expressed the desire for websites dedicated to helping developers find reliable services to implement green building details like on-site water remediation and construction site recycling.

There was little disagreement among the three types of people surveyed about the value of incentives and the need for more comprehensive green building promotional programs. If there is a difference in practice, it will always be about money. Developers are concerned with the bottom line and interested in possible offsets to their costs. Cities and counties currently have the budgets to support small incentive programs, but they are much more drawn to non-monetary incentives such as publicity and awards, faster permit processing and greater density bonuses.

All in all, there is much that can be done to promote green building at the local level – actions that are not insurmountable by any means. NAIOP hopes to help build a conduit that will bring these ideas and needs to realization.

Recommendations

1. Encourage developers to have a greater say in the incentive process. They will be more likely to buy-in to the programs and use the incentives.
2. Increase awareness in selected towns and communities of the benefits of green building so that there is a pull by political supporters of progressive local officials.
3. Continue to talk to developers in their language: business and finance. Work with other green building organizations to accumulate project cost and benefit data. Show NAIOP members hard numbers and statistics. They will be more convinced to build green.
4. Increase awareness among developers that there is a change in values within the development community and among consumers to support the rapid growth of green building construction and energy-efficient operations.
5. Start creating language for specific incentives that we know the development community wants:
 - a. Expedited permitting
 - b. Property tax reductions or abatements for significant periods of time
 - c. Density bonuses and entitlement assurances
 - d. Accelerated building permit processing (this of course works best in cities where the permit process is convoluted and slow!)



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Telephone Interviews

1. David Wick, Hines, Houston, TX
2. Roger McErland, The Irvine Company, Irvine, CA
3. Tondy Lubis, Colliers International
4. David Plotkin, Seaver Franks Architects, Tucson, AZ
5. Steve Kendrick, LPA Inc., Roseville, CA
6. Russell Perry, SmithGroup, Washington, DC
7. Anthony Bernheim, HDR Inc., San Francisco, CA
8. Mary McLeod, Austin Energy, TX
9. Stuart Cooley, City of Santa Monica, CA
10. Bill Smith, City of Tacoma, WA
11. Yves Khawam, Pima County (Tucson), AZ



Appendix 1. Local Government Programs

Local governments have increasingly instituted policies, programs and incentives in the effort to encourage sustainable building. The following are a partial list of these policies, programs and incentives. Policies are formal rules to guide decisions. Programs are systems of projects or services intended to meet public needs. Incentives are any factors (financial or non-financial) that provide a motive for a particular course of action. Wherever the text says “meet LEED or equivalent,” it means for the government’s own projects, not for private development. Information is current only through August 2007; as this is a fast-changing field, we encourage developers to monitor local and state developments through NAIOP national newsletters, conferences and other sources. For an up to date listing, go to the USGBC web site: <https://www.usgbc.org/ShowFile.aspx?DocumentID=2021>.

I. By State and City

Alabama: no cities with known green building incentives or programs at the time of writing.

Alaska: no cities with known green building incentives or programs at the time of writing.

Arizona:

- Scottsdale:
 - Has a policy to meet LEED or equivalent;
 - Has created programs to encourage green building activity;
 - Has created green building guidance documents for housing (e.g. a checklist);
 - Carries a priority permitting program.
- Phoenix
 - Has a policy to meet LEED or equivalent;
 - Offers bond funds;
 - Offers loans/loan funds;
 - Offers tech support for energy efficient retrofits for A/C and lighting;
 - Offers technical support.
- Tucson:
 - Has a policy to meet LEED or equivalent;
 - Has endorsed and encouraged LEED or equivalent.

Arkansas: no cities with known green building incentives or programs at the time of writing.

California:

- The state has created programs to encourage green building activity;
- Requires LEED Silver or better for all new state-owned buildings; we have seen this requirement also apply to leased buildings, e.g., in “Request for Lease Proposals” from developers.
- The state has created a working group to develop standards/plans;
- The state offers technical support;
- The state offers training;
- The state has green building guidance documents for its own projects, such that every building achieves LEED Silver certification, per Executive Order of the Governor; these documents are produced by the California Department of General Services; since 2003, the state has created many LEED certified buildings.
- Los Angeles:
 - Has a policy to meet LEED or equivalent;
 - Has created programs to encourage green building activity;
 - Has created green building guidance documents;
 - Has created LEED demonstration projects for its own use, including libraries, animal shelters, community centers and similar types of buildings.
- Alameda County:
 - Has a policy to meet LEED or equivalent;
 - Offers technical support;
 - Offers training for the private sector, including classes in green building;
 - Has created green building guidance documents;
 - Offers grants for certain green building activities;
 - Evaluates work through third-party certification, LEED or equivalent.
- San Mateo County:
 - Has a policy to meet LEED or equivalent;
 - Has created programs to encourage green building activity.
- San Diego County:
 - Offers training;
 - Offers reduced building permit fees/plan review fees as incentives.
- Santa Barbara County:
 - Has created a working group/tasked an agency to develop standards/plans;
 - Has created green building guidance documents;

- Offers reduced building permit fees/plan review fees as incentives.
- Berkeley:
 - Has a policy to meet LEED or equivalent;
 - Offers technical support that varies according to staff expertise and developer needs.
- Calabasas:
 - Has a policy to meet LEED or equivalent.
- Long Beach:
 - Has a policy to meet LEED or equivalent.
- Oakland
 - Has a policy to meet LEED or equivalent.
- Pasadena
 - Has a policy to meet LEED or equivalent.
- Pleasanton
 - Has a policy to meet LEED or equivalent;
 - Has created programs to encourage green building activity;
 - Offers energy-efficient rebates.
- Sacramento
 - Has a policy to meet LEED or equivalent;
 - Refunds LEED certification fees.
- San Diego
 - Offers reduced building permit fees/plan review fees as incentives.
- San Francisco
 - Has a policy to meet LEED or equivalent;
 - Carries a priority permitting program;
 - Has an expedited review incentive (non-monetary).
- San Jose
 - Has a policy to meet LEED or equivalent;
 - Has endorsed and encouraged LEED or equivalent.
- Santa Barbara
 - Offers technical support;
 - Has an expedited review incentive.
- Santa Monica:
 - Has a policy to meet LEED or equivalent;
 - Has created green building guidance documents;
 - Carries a priority permitting program;
 - Has an expedited review incentive (non-monetary) ;
 - Offers grants.
- Riverside:
 - Has an expedited review incentive.

Colorado:

- Statewide Built Green (nonprofit) Program for new homes provides technical and training support. All homes registered as Built Green are inspected on a random basis by certified raters of an independent, non-profit agency, E-Star Colorado.

- Boulder:
 - Has created programs to encourage green building activity.
- Denver:
 - Has a local green building program known as “Greenprint,” with the details accessible at www.greenprintdenver.org
- Fort Collins:
 - Has a policy to meet LEED or equivalent.

Connecticut: no cities with known green building incentives or programs at the time of writing.

Delaware: no cities with known green building incentives or programs at the time of writing.

District of Columbia/Washington D.C.:

- Has a policy to meet LEED or equivalent;
- Offers technical support;
- Carries a priority permitting program;
- Evaluates work through performance monitoring and reporting;
- By 2012, all new commercial developments over 50,000 square feet have to meet the LEED Silver standard.

Florida:

- Sarasota County:
 - Has a policy to meet LEED or equivalent;
 - Carries a priority permitting program;
 - Has an expedited review incentive;
 - Offers reduced building permit fees/plan review fees as incentives.
- Gainesville:
 - Has a policy to meet LEED or equivalent;
 - Offers training;
 - Carries a priority permitting program;
 - Has an expedited review incentive;
 - Offers marketing materials/publicity;
 - Offers reduced building permit fees/plan review fees as incentives;
 - Evaluates work through third-party certification, LEED or equivalent;
 - Evaluate work through performance monitoring and reporting.
- Miami-Dade County:
 - Has an expedited review incentive.

Georgia:

- Chatham County:
 - Program details not known.
- Atlanta:
 - Has a policy to meet LEED or equivalent.
- Tybee Island:
 - Has a policy to meet LEED or equivalent.

Hawaii:

- Honolulu:
 - Has a policy to meet LEED or equivalent.

Idaho: no cities with known green building incentives or programs at the time of writing.

Illinois:

- Cook County:
 - Has a policy to meet LEED or equivalent.
- Chicago:
 - Has a policy to meet LEED or equivalent;
 - Has created programs to encourage green building activity;
 - Operates a priority permitting program.
- Normal:
 - Has a policy to meet LEED or equivalent.

Indiana: no cities with known green building incentives or programs at the time of writing.

Iowa:

- The state has created a working group/tasked an agency to develop standards/plans.

Kansas:

- The state has a policy to meet LEED or equivalent.

Kentucky:

- The state has created programs to encourage green building activity;
- The state has created a working group/tasked an agency to develop standards/plans.

Louisiana: no cities with known green building incentives/programs in place at time of writing.

Maine: no cities with known green building incentives or programs at the time of writing.

Maryland:

- The state has a policy to meet LEED or equivalent.
- Bowie:
 - Has endorsed and encouraged LEED or equivalent.

Massachusetts:

- Acton:
 - Offers density bonuses as incentives.
- Arlington:
 - Has a policy to meet LEED or equivalent.
- Boston:
 - Has a policy to meet LEED or equivalent;
 - All new commercial development required to meet LEED or equivalent standards.

Michigan:

- Grand Rapids:
 - Has a policy to meet LEED or equivalent.

Minnesota: no cities with known green building incentives or programs at the time of writing.

Mississippi: no cities with known green building incentives or programs at the time of writing.

Missouri:

- Kansas City:
 - Has created demonstration projects.

Montana: no cities with known green building incentives or programs at the time of writing.

Nebraska:

- Omaha:
 - Has a policy to meet LEED or equivalent.

Nevada:

- The state has a policy to meet LEED or equivalent;
- The state has created demonstration projects;
- AB621 (2007) preserves former substantial property tax breaks (25% to 35%) for up to 10 years for LEED Silver or better projects. The breaks do not apply to property taxes owed to local school districts. Additionally, the bill eliminates sales tax exemptions on construction materials provided by the previous 2005 law.

New Hampshire: no cities with known green building incentives or programs at the time of writing.

New Jersey:

- Cranford:
 - Has a policy to meet LEED or equivalent;
 - Fields incentive requests from developers; incentives negotiable.
- Princeton:
 - Has endorsed and encouraged LEED or equivalent.

New Mexico:

- Albuquerque:
 - Has a policy to meet LEED or equivalent.

New York:

- The state has a policy to meet LEED or equivalent.
- Suffolk County:
 - Has a policy to meet LEED or equivalent.
- New York City:
 - Has a policy to meet LEED or equivalent.
- Babylon:
 - Requires LEED certification by end of 2007 for all new projects over 4,000 sq.ft.
 - Refunds certification fees.
- Syracuse:
 - Has a policy to meet LEED or equivalent;
 - LEED required for renovations.

North Carolina:

- Chapel Hill:
 - Has a policy to meet LEED or equivalent.

North Dakota: no cities with known green building incentives or programs at the time of writing.

Ohio:

- Cincinnati:
 - Has a policy to meet LEED or equivalent;
 - Offers grants.

Oklahoma: no cities with known green building incentives or programs at the time of writing.

Oregon:

- Eugene
 - Has a policy to meet LEED or equivalent for its own projects.
- Portland
 - Has a policy to meet LEED or equivalent for its own projects;
 - Offers grants to innovative projects, very competitive process.

Pennsylvania: no cities with known green building incentives or programs at the time of writing.

Rhode Island: no cities with known green building incentives or programs at the time of writing.

South Carolina: no cities with known green building incentives or programs at the time of writing.

South Dakota: no cities with known green building incentives or programs at the time of writing.

Tennessee: no cities with known green building incentives or programs at the time of writing.

Texas:

- Austin:
 - Has a policy to meet LEED or equivalent.
- Dallas:
 - Has a policy to meet LEED or equivalent.
- Frisco:
 - Levies fines/disciplinary action for non-compliance with LEED standards.
- Houston:
 - Has a policy to meet LEED or equivalent.
- San Antonio:
 - Offers reduced building permit fees/plan review fees as incentives.

Utah:

- Salt Lake City:
 - All new buildings since 2005 are to meet LEED Silver standard, by Executive Order of the Mayor, www.slccgreen.com

Vermont:

- The state refunds fund contributions.

Virginia:

- Arlington County:
 - Has a policy to meet LEED or equivalent;
 - Has created programs to encourage green building activity;
 - Has created green building guidance documents;
 - Operates a priority permitting program;
 - Offers marketing materials/publicity for successful LEED certified projects;
 - Refunds some development fund contributions;
 - Offers density bonuses as incentives;
 - Evaluates work through third-party certification, LEED or equivalent;
 - Evaluates work through performance monitoring and reporting.

Washington:

- King County:
 - Has a policy to meet LEED or equivalent;
 - Offers grants.
- Issaquah:
 - Offers technical support;
 - Carries a priority permitting program;
 - Has an expedited review incentive.
- Seattle:
 - Has a policy to meet LEED or equivalent;
 - Offers technical support;
 - Offers marketing materials/publicity;
 - Offers limited grants;
 - Offers density bonuses as incentives.

West Virginia: no cities with known green building incentives or programs at the time of writing.

Wisconsin:

- Madison:
 - Has a policy to meet LEED or equivalent.

Wyoming: no cities with known green building incentives or programs at the time of writing

II. By Type of Policy, Program or Evaluative Action

To assist developers in finding programs that meet their particular needs, we've organized the results above by type of program. The reason for this approach is that a developer may want to (or be asked to) serve on an advisory committee for creating a green building program in a particular jurisdiction. When the discussion turns to policies or grants or non-monetary incentives, one can then refer to the specific provisions of programs in various jurisdictions. A simple Google search under "green building incentives" and the name of the city is often all that's required to find the details of a particular policy or ordinance.

A. Policies

1. **Meet LEED or equivalent:** The state or municipality has mandated by official policy that all of their buildings must meet LEED or equivalent requirements. In some municipalities, an alternative to the LEED program may serve as a substitute.

AZ - Scottsdale

- Tucson
- Phoenix

CA - Los Angeles

- Alameda County
- San Mateo County
- Berkeley
- Calabasas
- Long Beach
- Oakland
- Pasadena
- Pleasanton
- Sacramento
- San Francisco
- San Jose
- Santa Monica

CO - Fort Collins

FL - Sarasota County

- Gainesville

GA - Atlanta

- Tybee Island

HI - Honolulu

IL - Cook County
• Chicago
• Normal

MA -Arlington
• Boston

MI - Grand Rapids

NE - Omaha

NJ - Cranford

NM -Albuquerque

NY - Suffolk County
• NYC
• Syracuse

NC - Chapel Hill

OH - Cincinnati

OR - Eugene
• Portland

TX - Austin
• Dallas
• Houston

VA - Arlington County

WA -King County
• Seattle

WI - Madison

DC - Washington D.C.

- 2. Endorse and encourage LEED or equivalent:** The municipality has a policy or policies in place that formally endorse and encourage building to a LEED or equivalent standard.

CA
• San Jose
MD
• Bowie
NJ
• Princeton
VA
• Arlington County

- 3. Create programs to encourage green building activity:** The municipality has created a formal program whereby it organizes communication among green builders, green construction material suppliers, local government staff, consumers and all other stakeholders to ensure the success of green building in the municipality. Often, specific services such as training are offered regularly.

AZ - Scottsdale

CA - Los Angeles
• San Mateo County
• Pleasanton

CO - Boulder

IL - Chicago

VA
• Arlington County

- 4. Create a working group or task an agency to develop standards or plans:** The municipality has formally provided for a green building working group through legal channels such as executive order or agency regulation.

CA- Santa Barbara

B. Programs

- 1. Technical Support:** The municipality offers support concerning building methods, building preparation, site evaluation and material selection. Technical details are disseminated to building designers and contractors who will do the actual construction and design work. Technical support may include design assistance to help create well-designed, smoothly-running building projects. Support may be in written form (e.g. handbooks, website tutorials and other technical documentation) or it may be live assistance (e.g. telephone hotline, availability of green building officials to public).

AZ
• Phoenix

CA
• Alameda County
• Berkeley
• Santa Barbara

WA

- Issaquah
- Seattle

Washington, D.C.

2. **Training:** The municipality offers training workshops, classes, seminars or on-the-job coaching for building professionals. This may include design as well as construction training.

CA

- Alameda County
- San Diego

FL

- Gainesville

GA

- Atlanta
- Tybee Island

3. **Guidance Documents:** The municipality has written documents that specifically guide developers in green building certification and compliance with local regulations.

AZ

- Scottsdale

CA

- Los Angeles
- Alameda County
- Santa Barbara
- Santa Monica

VA

- Arlington County

4. **Demonstration Projects:** The municipality has taken the first steps to demonstrate certain benefits of green building by building first. This proves to developers the feasibility of certain types of projects or green construction methods.

CA - Los Angeles

MO - Kansas City

C. Incentives

1. **Priority building permit process:** The municipality will give preference to projects meeting certain criteria for green building when passing a project through the permitting process. Green building projects will pass through the process faster, saving time and money.

CA

- San Francisco
- Santa Monica

FL

- Sarasota County
- Gainesville

IL

- Chicago

VA

- Arlington County

WA

- Issaquah
- District of Columbia
- Washington, D.C.

2. **Expedited development plan review:** The municipality gives preference to working on green building development plan reviews. Projects that commit to certain sustainable certifications or other criteria representing achievements of stated goals will be processed more quickly through the plan review phase, thus gaining a time advantage which translates into cost savings.

AZ

- Scottsdale

CA

- Santa Barbara
- San Francisco
- San Diego County
- Santa Monica
- Riverside

FL

- Miami-Dade County
- Sarasota County
- Gainesville

WA

- Issaquah

3. Solar energy permit fee credit/tax credit: Developers receive a permit fee remittance or a tax credit if solar energy is included in the developed site. Many states offer solar energy tax credits. See the Directory of State Incentives for Renewable Energy for a complete list: www.dsireusa.org.

AZ

- Tucson (permit fee credit)

CA

- San Diego County

4. Tax refund/abatement/credit: The municipality gives a tax incentive to qualifying green building projects in the form of a tax refund, tax abatement or tax credit.

AZ

- All cities (AZ House Bill 2429)

CA

- Pasadena

GA

- Chatham County

MD

- Baltimore County

NV

- All cities (AB 632)

OH

- Cincinnati

5. Bond funds: The municipality collects funds from bonds which are then offered to fund sustainable development projects.

AZ

- Phoenix

6. Loan/loan funds: The municipality offers attractive loans to sustainable development projects.

AZ

- Phoenix

CA

- Alameda

7. Rebates from utilities: Utilities partner with the municipalities to offer rebates for certain green building features. There are a huge number of such programs in the U.S. This list is just a brief sampling of such programs.

AZ

- Phoenix (Salt River Project -Earthwise)

CA

- Pasadena

PA

- Reading – Municipal Light Dept. – Business Lighting Rebate Program

MA

- All cities - National Grid (Mass Electric) – Commercial Energy Efficiency Incentive Program

8. Energy-efficient rebates: Utilities offer rebates to projects that meet certain energy-efficient criteria for mechanical systems and design.

CA

- Pleasanton
- LA: LADWP – Non-Residential Energy-Efficiency Rebate Program

9. Marketing materials/publicity: The municipality offers marketing materials and good publicity thereby increasing the visibility and community recognition of the green developer. Plaques, job site signs, press in local papers and features on local websites are all techniques used here.

AZ

- Scottsdale

FL

- Gainesville

VA

- Arlington County

WA

- Seattle

10. Development fee or fund contributions refund: The municipality requires all developers/builders to contribute to a fund. Those builders creating projects that conform to certain sustainable criteria receive their fund contributions back.

- VA
- Arlington County

11. LEED certification fees refunded: The municipality gives back LEED certification fees if projects meet certain green criteria.

- CA
- Sacramento
- NY
- Babylon

12. Direct Grants: Money in the form of grants is given to developers for green projects.

- CA- Alameda County
Santa Monica
- OH - Cincinnati
- OR - Portland
- WA- King County
Seattle

13. Reduced development fees (e.g. building permit fees, plan review fees): The municipality allows fee reduction or no fee for green projects.

- CA - San Diego County
Santa Barbara County
San Diego
- FL - Sarasota County
Gainesville
- TX -
- San Antonio

14. Incentives by request or negotiation: The municipality allows developers to request incentives that best fit their needs. The requests are reviewed and then granted if reasonable/feasible.

- NJ
- Cranford

15. Density bonuses (higher FAR): The municipality allows a project to build at a higher density if certain green criteria are met. This allows the developer to expect more rent from the building site and increase the valuation.

- MA
- Acton
- NJ
- Cranford
- VA
- Arlington County
- WA
- Seattle

D. Evaluation

1. Performance monitoring and reporting: The municipality requires post-commissioning performance reporting.

- FL
- Gainesville
- VA
- Arlington County
- Washington, D.C.

2. Fine or disciplinary action for non-compliance with green building requirements: The municipality in effect has created a disincentive to not build sustainably. Fines can be imposed for certain non-compliance issues.

- TX
- Frisco

Appendix 2. Survey Questions (for Developers)

Green Building Incentives for Developers

Welcome!

Thank you for responding to our previous survey on green issues. In conjunction with a research project being funded by the NAIOP Research Foundation, we would greatly appreciate your opinions on green building incentives.

1. Have you developed property in a city or county that currently offers or has offered incentives for green building at the time of your project?
 Yes (goes to question 2)
 No (goes to question 5)

2. Which cities or counties (include state) offered or are offering you incentives for green development? (Fill in as many as apply.)
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____

3. What was the form of the incentives? (Check as many as apply.)
 Incentive money from a utility energy efficiency program
 Direct monetary payment (grant, rebate, or reimbursement)
 State income tax credit
 Access Loans/Loan Funds
 Marketing/Good Publicity/Awards
 Density Bonuses (Higher FAR)
 Development Fees Partially or Fully Refunded
 Priority Permit Processing
 Other (please specify) _____

4. Besides direct monetary payments (grants, rebates, tax incentives, utility payments), which Green Building Incentives were/would be the most significant for you, in your choice to develop green projects?
 Access Loans/Loan Funds
 Density Bonuses (Higher FAR)
 Development Fees Partially or Fully Refunded
 Marketing/Good Publicity/Awards
 Priority Permit Processing

5. What other incentives could be offered that would make you more likely to build and certify green development projects? (Please be as specific as possible.)

6. In your experience, which is the most important barrier at this time to the rapid growth of green buildings?

- Actual cost increases
- Perceived cost increases
- Lack of knowledge on how to build green
- Building codes/regulations
- Tenants not willing to pay a premium
- Certification costs/paperwork

7. From your knowledge or direct experience, what two cities or counties (include state) do you think have the most successful green building incentives in place?

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

- Business case benefits are recognized and desired by tenants
- Concern about current or future energy prices
- Costs are coming down
- It's our philosophy to build green (internally)
- Priority permit processing and other incentives
- Prior experience with green building
- Public relations/marketing benefits
- Tax and other financial incentives

9. Please give one brief reason why you think local incentives will help build momentum for green building development.

10. Which of the following best describes your current occupation or profession?

- Developer – Office Properties
- Developer – Industrial Properties
- Developer – Mixed-use Commercial/Residential
- Other (please specify) _____

11. How would you describe your experience with green buildings?

- Very experienced (more than 10 projects)
- Reasonably experienced (5-10 projects)
- Somewhat experienced (less than 5 projects)
- No projects completed (but some underway)
- Green building projects planned for this year
- No projects underway or planned
- Other (please specify) _____

Please give one brief reason why you think local incentives will help build momentum for green building development.

12. Where are you located, or where do you do most of your projects?

- US – Northeast
- US – Mid-Atlantic
- US – Southeast/South
- US – Midwest
- US – Southwest/Rockies
- US – West Coast
- Canada – Alberta
- Canada – British Columbia
- Canada - Ontario

13. If you would like to expand on your answers, may we contact you by phone or email?

- Yes, you may contact me by email _____
- Yes, you may contact me by phone _____

14. Would you like to receive the survey results?

- Yes, please email me the results.
- No, thanks.

Thank you for your responses!

Appendix 3. Detailed Survey Results

Survey Participant Characteristics

	Architects	Developers	Government	Weighted Avg
Number of survey participants	37	53	22	
Type of Properties Represented (greater than 100% as one person may be involved with various property types)				
Commercial	49%	62%	n/a	57%
Institutional	30%	n/a	100%	56%
Mixed-Use	22%	56%	n/a	42%
Residential	11%	47%	n/a	32%
Office	n/a	18%	n/a	18%
Industrial	n/a	3%	n/a	3%
Green Building Experience Level of Survey Participants				
Very experienced (more than ten projects)	38%	3%	33%	20%
Reasonably experienced (5 to 10 projects)	27%	26%	33%	28%
Somewhat experienced (less than five projects)	19%	31%	10%	23%
No projects completed (but some underway)	14%	31%	5%	20%
Green building projects planned for this year	3%	8%	14%	7%
No projects underway or planned	0%	3%	14%	4%
Are you a LEED accredited professional?				
Yes	86%	n/a	55%	75%
No	14%	n/a	45%	25%
Personally participated in LEED certified project (any level)				
Yes	84%	n/a	68%	78%
No	16%	n/a	32%	22%
Where are you located/do most of your projects?				
US - Northeast	5%	16%	5%	10%
US - Midatlantic	0%	16%	0%	8%
US - Southeast/South	11%	19%	0%	13%
US - Midwest	22%	16%	5%	16%
US - Southwest/Rockies	24%	19%	50%	27%
US - West Coast	38%	27%	41%	33%
Canada - Alberta	0%	5%	0%	3%
Canada - British Columbia	0%	3%	0%	1%
Canada - Ontario	0%	3%	0%	1%

Project Characteristics

	Architects	Developers	Government	Weighted Avg
Developed property or worked in city/county offering green building incentives?				
Yes	59%	32%	50%	45%
No	41%	68%	50%	55%
Form of Incentive				
Incentive money from a utility energy efficiency program	79%	33%	78%	57%
Direct monetary payment (grant, rebate or reimbursement)	57%	42%	67%	52%
Expedited Permit Processing	14%	50%	38%	36%
Marketing/Good Publicity/Awards	0%	42%	75%	35%
State income tax credit	50%	8%	44%	29%
Property or sales tax rebates or abatements	43%	17%	0%	22%
Density bonus	8%	17%	50%	21%
Access Loans/Loan Funds	0%	25%	25%	17%
Full or partial refunds for development fees	0%	8%	25%	9%
Credit for solar PVs	3%	0%	0%	1%
Design latitude to meet code requirements	0%	0%	5%	1%
User fee discounts	0%	0%	5%	1%
Which green building incentives were offered to your clients?				
Marketing/Publicity/Awards	50%	n/a	n/a	50%
Priority Permit Processing	44%	n/a	n/a	44%
Density Bonuses (Higher FAR)	33%	n/a	n/a	33%
Access Loans/Loan Funds	11%	n/a	n/a	11%
Development Fees partially or fully Refunded	11%	n/a	n/a	11%
What effect did building green have on initial construction cost?				
No real cost impact	0%	n/a	n/a	0%
1% to 2% cost increase	17%	n/a	n/a	17%
2% to 4% cost increase	33%	n/a	n/a	33%
>4% cost increase	28%	n/a	n/a	28%
hard or impossible to measure	22%	n/a	n/a	22%
What is the highest level of LEED that you have achieved?				
Certified	0%	n/a	n/a	0%
Silver	31%	n/a	n/a	31%
Gold	50%	n/a	n/a	50%
Platinum	19%	n/a	n/a	19%
Were/are your agency's programs established through formal policies or created on an ad-hoc basis?				
Through formal policies	n/a	n/a	82%	82%
On an ad-hoc basis	n/a	n/a	18%	18%
Has your agency required LEED or its equivalent for its own projects?				
Yes	n/a	n/a	70%	70%
No	n/a	n/a	30%	30%

Attitudes and Beliefs

	Architects	Developers	Government	Weighted Avg
Besides direct monetary payment, which green building incentives were most influential?				
Priority Permit Processing	41%	75%	30%	55%
Marketing/Good Publicity/Awards	71%	42%	60%	55%
Density Bonuses (Higher FAR)	18%	83%	50%	55%
Development Fees partially or fully Refunded	18%	58%	20%	37%
Tax Refund/Abatement	47%	0%	10%	18%
Access Loans/Loan Funds	6%	17%	10%	12%
Have you received an adequate amount of publicity and/or new business from your efforts to design green?				
Yes	60%	n/a	n/a	60%
No	40%	n/a	n/a	40%
What other influential incentives could be offered? (top 10% of answers chosen for display)				
Renewables				
Tax rebates for renewables	8%	2%	9%	5%
Development				
Density bonuses	5%	11%	23%	12%
Better Development Process				
Expedited permitting	14%	25%	32%	22%
Expedited review	14%	4%	18%	10%
Reduced Fees/Taxes				
Tax reduction	11%	17%	9%	13%
LEED Certification rebates or refunds for fees	3%	6%	9%	5%
Impact fee reduction	8%	6%	0%	5%
Reduced-cost building permits	0%	8%	9%	5%
Which is the most significant barrier at this time to the rapid growth of green buildings?				
Perceived cost increases	56%	41%	50%	48%
Lack of knowledge how to build green	12%	18%	20%	16%
Actual cost increases	15%	13%	0%	11%
Tenants not willing to pay a premium	6%	10%	15%	10%
Certification costs/paperwork	9%	10%	10%	10%
Building codes/regulations	3%	8%	5%	6%
All of the above depending on project, location, client	3%	0%	0%	1%
Inaccurate pre-design first costs due to insufficient contractor databases.	3%	0%	0%	1%
Most significant incentive or trigger that has been effective in promoting green building				
It's our philosophy to build green (internally)	14%	44%	26%	31%
Business case benefits are recognized and desired by tenants	17%	13%	5%	13%
Tax and other financial incentives	3%	8%	21%	9%
Concern about current or future energy prices	9%	10%	5%	9%
Institution or client requires it as a policy	26%	n/a	0%	8%
Government requires it as a policy	6%	n/a	21%	6%
Public relations/marketing benefits	11%	0%	11%	6%
Costs are coming down	3%	3%	5%	3%
Priority permit processing and other incentives	6%	3%	0%	3%
Prior experience with green building	6%	0%	5%	3%
Do you think that local incentives will help build momentum for green building development in the next three years?				
Yes	97%	n/a	100%	98%
No	3%	n/a	0%	2%
Do you think local government incentives are necessary for the green building industry's success?				
Yes	60%	n/a	65%	62%
No	40%	n/a	35%	38%
Were the green building programs or policies offered by your agency regarded by the public in a favorable light?				
Yes	n/a	n/a	80%	80%
Somewhat yes	n/a	n/a	20%	20%
No	n/a	n/a	0%	0%
Somewhat no	n/a	n/a	0%	0%
How would you best characterize the method in which your municipality chooses or chose to incentivize green building:				
Maintain Momentum: Take no new action, no intervention.	n/a	n/a	13%	13%
Work with the Willing: Celebrate and reward current successes.	n/a	n/a	25%	25%
Coalitions and Consensus: Establish a council or working group.	n/a	n/a	38%	38%
Legislating LEED: Require documented compliance with external standard.	n/a	n/a	25%	25%
Were contracting requirements ever a barrier to promoting green building in your government's green building projects?				
Yes	n/a	n/a	41%	41%
No	n/a	n/a	59%	59%

The following are highlights of completed research projects funded by the NAIOP Research Foundation. For a complete listing, please visit the Foundation's website at www.naiop.org/foundation.

NAIOP Research Foundation Funded Research

The Contribution of Office, Industrial and Retail Development and Construction on the U.S. Economy (2007)

Exploration of LEED Design Approaches for Warehouse and Distribution Centers (2007)

Developing Influencer Relationships to Accelerate Development Success (2005)

NAIOP Terms and Definitions: U.S. Office and Industrial Market (2005)

The Strategic Context of Office and Industrial Property in America: Fixed Assets in a Time of Predictable Change. (2004)

“The work of the Foundation is absolutely essential to anyone involved in industrial, office and mixed-use development. The Foundation’s projects are a blueprint for shaping the future and a road map that helps to ensure the success of the developments where we live, work and play.”

Ronald L. Rayevich, Founding Chairman
NAIOP Research Foundation

Arlington County Virginia Green Building Incentive Program

Introduction

The purpose of **Arlington County's Green Building Density Incentive Policy for Site Plans** is to encourage private developers of large office, high-rise residential, and mixed use projects to design, construct, and operate environmentally responsible buildings. The bonus density program applies to special exception site plan requests for bonus density and/or height. The program uses the US Green Building Council's LEED green building rating system as a standard for measuring the comprehensive green approach of each project. As of March 14, 2009, bonus density in exchange for LEED certification was updated as follows:

Green Building Fund

The County established a Green Building Fund and a policy of having site plan developers who do not commit to achieving a LEED rating from the U.S. Green Building Council (USGBC) contribute to the Fund. The contribution is calculated at a rate of \$0.045 per square foot. (This contribution calculation is based on the fees assessed by the USGBC for registration and evaluation of a formal LEED application.) The Green Building Fund is used to provide education and outreach to developers and the community on green building issues. If a project receives LEED certification from the USGBC, the Fund contribution is refunded upon receipt of the final LEED certification.

Green Building Bonus Density Program

LEED Level	Prior to March 14, 2009	After March 14, 2009	
		Office	Residential
Certified	0.15 FAR*	0.05 FAR	0.10 FAR
Silver	0.25	0.15	0.20
Gold	0.35	0.35	0.40
Platinum	0.35	0.45	0.50

*Floor Area Ratio (FAR) is defined as the

Gross floor area (square feet) divided by (÷) site area for density purposes (square feet)

Program History

An interdepartmental team of staff from the Department of Environmental Services, the Arlington Economic Development, the Department of Community Planning, Housing and Development, the Office of Support Services, the County Manager's Office and the County Attorney's Office was convened to develop the original policy in 1999. The staff team has sought feedback from the Planning Commission, the Environmental and Energy Conservation Commission, and the building community. The team and stakeholders reconvened for the 2003 and 2009 updates to the bonus density program.

In October 1999, the County Board adopted a Pilot Green Building Incentive Program based on the U. S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) Green Building Rating System to evaluate special exception site plan requests for bonus density and/or height. The original incentive program, implemented in April 2000, offered bonus density up to .25 FAR for office buildings achieving the LEED Silver standard.

Although many developers expressed interest in the pilot program, only one project applied and received bonus density in exchange for a silver LEED rating. After more than three years of experience and feedback, Arlington County updated and expanded the Green Building Density Incentive Program in 2003. The 2003 program allowed the County Board to consider the provision of LEED certified green building components as justification for bonus density and/or bonus height requests in special exception site plan proposals for all types of site plan development and at all four levels of LEED certification. See table above for densities offered as part of the 2003 program.

For additional information on the history of the program see the [March 14, 2009 Board Report on the Green Building Density Incentive Policy for Site Plan Projects](#)

Components of the Green Building Density Incentive Program

- Consistent with Section 36.H.5. of the Zoning Ordinance, the program allows the County Board to consider a modification of use regulations for additional density between .05 and .45 FAR for office buildings and between .10 and .50 FAR for residential buildings and/or additional height up to 3 stories for special exception site plan requests. The site plan proposal must guarantee a LEED rating at one of the four LEED award levels (Certified, Silver, Gold or Platinum) for the bonus to be approved.
- The provision of LEED-certified green building components does not guarantee additional density and/or height, or any particular amount of density or height. The FAR bonuses are the maximum allowed for each level of LEED certification. Site plan requests for bonus density and/or height will be analyzed on a case-by-case basis based on the characteristics of individual sites.
- The provision of LEED-certified green building components will be a part of the typical site plan negotiations for environmental amenities in exchange for the requested bonuses.

Other Considerations

- It is not the intent of this policy to compete with the affordable housing bonus density provisions of Section 36.H.5. The combination of green building and affordable housing incentives can be considered and utilized in a single site plan proposal.
- Under the "C-O-Rosslyn" District, the modification of use provisions of Section 36.H.5 cannot be applied to permit densities or heights greater than the district requirements of 10 FAR and 300 feet, respectively. In order to encourage environmentally-sensitive buildings in Rosslyn, density credit would be given towards the community benefit valuation for buildings which are LEED-certified at no less than the Silver award level. The amount of density credit that can be considered may be greater in "C-O-Rosslyn", ranging from .30 FAR to .50 FAR, for several reasons: 1) the "C-O-Rosslyn" district allows more than twice as much density as other districts, up to 10 FAR; 2) the environmental impacts of denser redevelopment will be greater; 3) the density incentive should be proportionate to the size of the building; and, 4) it will accomplish the planning goals of making Rosslyn a premiere office location.

Implementation

The Green Building Incentive Program will be implemented as follows:

1. A LEED Accredited Professional will be included on the site plan project team.

2. At the time of 4.1 site plan submission, the developer will be required to submit the LEED scorecard (LEED Version 3 or the most recent update) along with the site plan application. The LEED scorecard is a checklist of green building standards and allows the developer to voluntarily score the building using the LEED Green Building Rating System. The scorecard is the documentation supporting the developer's request for bonus density and/or height. The LEED Scorecard will be accompanied by an explanation of how and/or why each credit can or cannot be achieved.
3. The scorecard is used to select which credits the developer intends to pursue and the number of points "earned" determines the award level.
4. The building registration and other required information will be filed with USGBC at the beginning of the project for LEED certification and rating.
5. The proposed site plan (including the requested bonus density and/or height) will undergo the typical community review process. If the County Manager supports the project, it will include appropriate site plan condition language requiring that the green building components identified in the scorecard be constructed or installed in the building.
6. Once the site plan is approved, permit drawings will be reviewed to ensure inclusion of the approved green building components, which were previously identified in the scorecard. The County will utilize LEED-accredited inspectors or architects hired by the developer during review of the permit drawings and construction of the building.
7. Permits will not be issued unless approved LEED components are included in the plan drawings and required LEED documentation is submitted.
8. The application for LEED certification and rating will be submitted to USGBC for design credit review and construction credit review at the appropriate time during design and/or construction.
9. If during construction of the building, the developer is unable to include all of the approved green building components previously identified in the scorecard, then the developer will be required to replace components with other green building components acceptable to USGBC and the LEED Rating System.
10. During plan review and construction, the LEED Accredited Professional will provide documentation and submit regular reports to the County ensuring compliance (or at least flag problems early on) with the LEED standards and scorecard and the approved site plan.
11. If during construction, the developer is unable to include required green building components, or if the inspector/architect finds that the developer failed to include these components, then the County will pursue enforcement.
12. The Master Certificate of Occupancy will be issued when the building is LEED certified (at the agreed upon level or better) by USGBC and construction is consistent with the approved site plan. Certification by USGBC will be obtained when the building is complete and the developer has constructed or installed the approved green building components previously identified.
13. The program will be reviewed and updated as appropriate.

Chicago, Illinois Green Permit and Green Homes

The City of Chicago encourages building design, construction and renovation in a manner that provides healthier environments, reduces operating costs and conserves energy and resources through their Green Permit Program. The Chicago Department of Buildings (DOB) Green Permit Program provides developers and owners with an incentive to build green by streamlining the permit process timeline for projects which are designed to maximize indoor air quality and conserve energy and resources.

Green Permit Program Incentives

Projects accepted into the Green Permit Program can receive permits in less than 30 business days or in as little as 15 business days. The number of green building elements included in the project plans and project complexity determines the length of the timeline. In addition, projects which meet the most stringent sustainability guidelines may also qualify for a partial waiver of consultant code review fees, up to \$25,000.

Application Procedure

Interested applicants must involve DOB early in the design process. DOB will help to guide the applicant through the process to ensure the shortest permitting process time.

Acceptance into the Green Permit Program is based on a series of requirements that qualifies the project for one of two different Benefit Tiers of green building certification:

- Commercial projects must earn various levels of certification within the appropriate Leadership in Energy and Environmental Design (LEED*) rating system developed by the U.S. Green Building Council.
- Smaller residential projects must earn a two-star or greater rating under the Chicago Green Homes program.

Both commercial and small residential projects are also required to earn from one to three *menu items*, or additional green design strategies above and beyond certification prerequisites, in order to be eligible for permitting privileges.

Chicago Green Homes Program

The Chicago Green Homes program is a checklist-based rating system for measuring a green building's elements developed by the Chicago Department of Environment. As of May 2010, there were approximately 250 Green Homes enrolled in the program. Training and education materials are available through the Green Homes program free of charge. See the [City of Chicago: Green Buildings, Roofs, and Homes](#) for additional information on enrolling your project in the Chicago Green Home program and how to work towards certification.



CITY OF PORTLAND
OFFICE OF SUSTAINABLE DEVELOPMENT

A BETTER FUTURE. A BETTER NOW.

DAN SALTZMAN, COMMISSIONER
SUSAN ANDERSON, DIRECTOR

City of Portland Proposed High Performance Green Building Policy



Proposal for Public Comment

December 4, 2008

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I. Background

City of Portland's green building history

Climate change, rising energy prices and a fragile job market pose serious threats to Portland's ability to thrive, both today and in the future. Buildings are responsible for nearly half of Portland's greenhouse gas emissions, and Portland residents and businesses now spend \$750 million each year to heat, cool and power our buildings. This figure has almost doubled over the past ten years and will likely continue to rise sharply, stretching already tight household and business budgets.

Because buildings last for many decades, today's decisions will affect Portland for the next century or more. Each building represents an opportunity to strengthen Portland's future—or weaken it.

High performance green building presents one of the best solutions to improve environmental performance while strengthening the local economy and keeping buildings affordable in the long term. For more than a decade, the Portland development community has incorporated green building practices as part of a framework for improving energy and water efficiency, stormwater management, indoor environmental quality and materials selection. The resulting buildings are delivering financial savings to their occupants and owners while enhancing workplace productivity and personal health. However, green building is not yet standard practice in Portland. To reach important environmental and economic goals, new policies and actions must be implemented to accelerate the spread of high performance green building in new construction and renovation of existing building stock.

In 2000, the City of Portland Office of Sustainable Development (OSD) launched a program offering green building technical assistance, education and financial incentives to the development community and the general public. In 2001, Portland was one of the first cities in the United States to support the emergence of green buildings by adopting a policy requiring that any new City-owned buildings achieve the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Silver certification. In 2005, this requirement was raised to

LEED Gold, with additional requirements for energy performance, stormwater management, water conservation, ecoroof installation and construction and demolition waste recycling.

Recognizing the many benefits of green building, in 2007, Portland City Council directed OSD to develop policy options to improve the environmental performance of commercial and residential buildings community-wide. The resulting proposed High Performance Green Building Policy also addresses City Council's goal to identify steps to reduce greenhouse gas emissions 80 percent from 1990 levels by 2050.

Similarly, the Portland Development Commission (PDC) adopted a green building policy in 2001 and strengthened it in 2005 to require LEED Silver certification for new construction projects receiving PDC funding such as tax-increment financing or low-interest loans. PDC is currently in the process of revising its Green Affordable Housing policy in conjunction with this community-wide green building policy proposal.

Improving building performance is imperative

As prices for energy and other natural resources rise, achieving better performance in Portland's buildings and the sites they occupy is critical to keeping Portland's housing and commercial space affordable. Improving energy efficiency helps maintain affordability in several ways:

- An investment in energy-saving measures pays back in reduced utility bills for tenants and homeowners. For example, an Earth Advantage home is at least 15 percent more efficient than minimum state code, saving close to \$400 annually in energy bills for a typical home.
- The added initial cost of new energy-saving measures is partly offset by financial incentives from the Energy Trust of Oregon (ETO) and the Oregon Department of Energy (ODOE).
- Lower energy consumption reduces the impact on budgets from current and future rate increases. This allows more money to be available for other expenditures, keeping money circulating in the local economy, strengthening the business climate and adding local jobs.

High performance green building also reduces greenhouse gas emissions by increasing the energy efficiency of the building envelope, lighting and mechanical systems. In addition, occupants of green buildings typically experience direct health benefits from improvements to indoor environmental quality.

Carbon dioxide, the primary greenhouse gas contributing to climate change, is emitted directly

from buildings through natural gas and fuel oil combustion and indirectly through electricity use. Although the Pacific Northwest is home to considerable wind, hydropower and other carbon-free energy resources, well over half of the electricity consumed in Portland is produced by regional coal and natural gas power plants. As shown in Figure 1, nearly half of community-wide carbon dioxide emissions result from electricity, natural gas and fuel oil consumption in buildings, including 20 percent from residential buildings and 24 percent from commercial buildings.

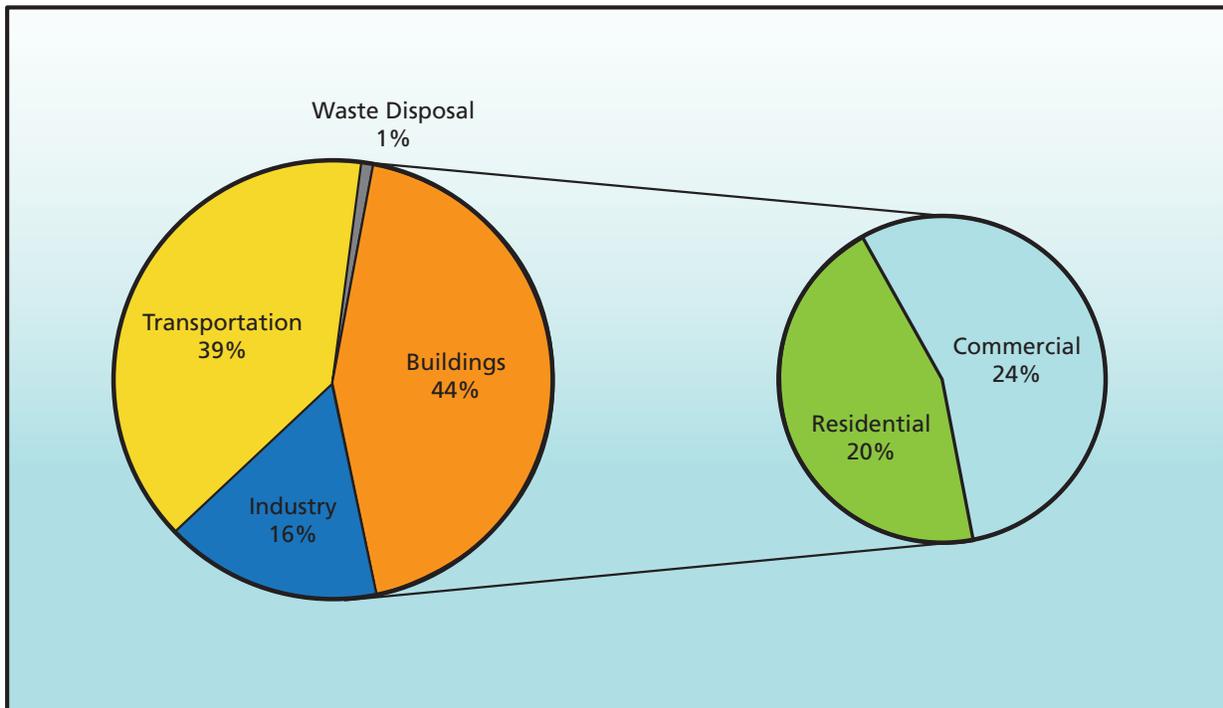


Figure 1. Sources of carbon dioxide emissions in Multnomah County, 2006.

Figure 2 shows the existing residential and commercial building stock square footage in Portland along with projected trends through 2050 based on the average growth of each building sector from 2000 through 2006 and an annual demolition rate of 0.5 percent. As demonstrated in Figures 1 and 2, achieving Portland’s 2050 climate protection goal will require a green building policy that reduces carbon dioxide emissions from new and existing buildings in both the commercial and residential sectors. These efforts will be complemented by strategies to address transportation, land-use planning and waste reduction, among others.

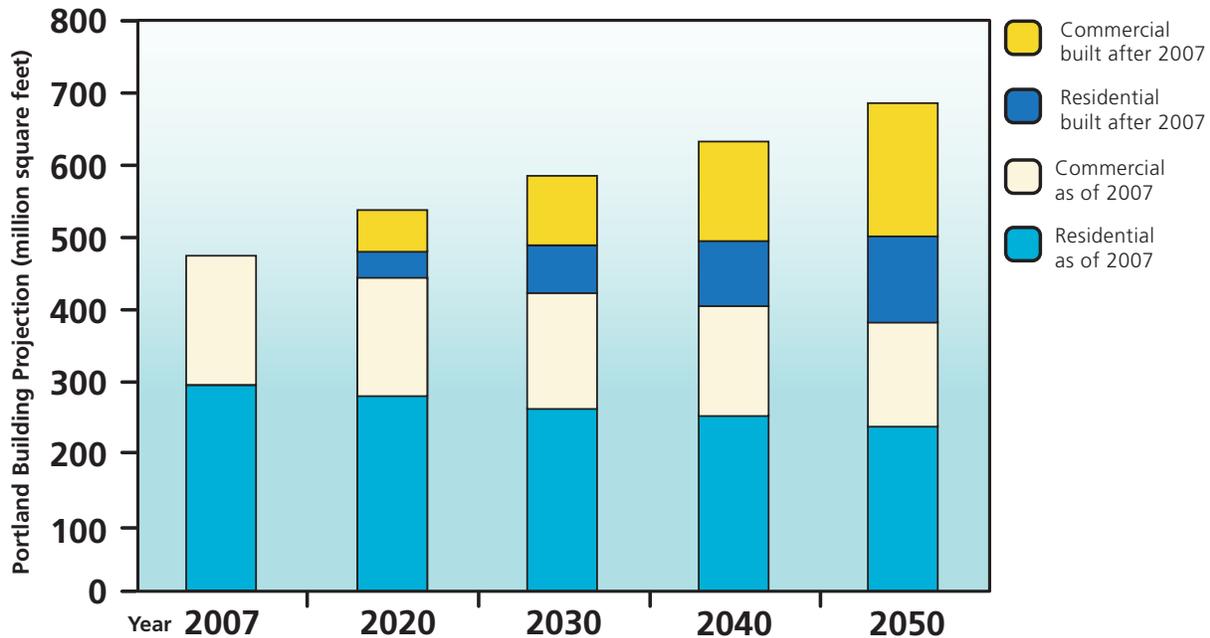


Figure 2. Commercial and residential building square footage projections through 2050.

II. Policy Development Process

In March 2007, Portland City Council adopted Resolution 36488 directing OSD to develop policy options to improve building environmental performance, including reducing oil and natural gas use and carbon dioxide emissions. Also in spring 2007, the Development Review Advisory Committee (DRAC) formed a subcommittee to make recommendations for expanding sustainable development practices in Portland, and the Portland City Council passed a resolution directing the Portland Development Commission (PDC) to update the City of Portland’s affordable housing green building threshold and voluntary guidelines. Members of DRAC and PDC participated in OSD’s policy development process. Likewise, OSD staff participated in DRAC and PDC green building processes.

In November 2007, Portland City Commissioner Dan Saltzman proposed a preliminary framework for the High Performance Green Building Policy outlining options for new construction and existing buildings in the commercial and residential sectors. In January 2008, Commissioner Saltzman and Commissioner Randy Leonard invited community members to learn about two potential policy paths to advance green building in Portland. First, the Bureau of Development Services (BDS) announced a Technical Advisory Group (TAG) to explore a possible local amendment to the state building code that would incorporate green building practices.

The TAG continues to meet and will make recommendations that the City Council can propose to the State Building Codes Division for consideration, probably in early 2009. Second, OSD announced a series of stakeholder meetings for the continued development of the green building policy and invited participation from the public. From February through June 2008, OSD convened nine stakeholder committee meetings to review and explore draft options identified by the policy framework. These drafts were revised to create the current proposed High Performance Green Building Policy.

III. Policy Overview

The proposed High Performance Green Building Policy seeks to accomplish the following goals for buildings and the sites they occupy in the city of Portland:

- Reduce greenhouse gas emissions that cause climate change.
- Maximize energy efficiency and cost savings.
- Keep housing and commercial buildings affordable over time.
- Decrease consumption of potable water, especially during summer months.
- Increase on-site stormwater management.
- Reduce waste during construction and operation.
- Improve indoor environmental quality, occupant health and productivity.
- Increase the number of local living-wage jobs.

The proposed policy provides incentives and technical assistance for projects that incorporate advanced green building measures as summarized in Table 1 and described below:

- 1) For new commercial and multifamily construction projects, the policy proposes a green building “feebate”—a market-based instrument that combines a fee for conventional construction, a waiver option for moderate green improvements and a reward for high performance green building projects.
- 2) For new single-family residential construction, the policy proposes a performance target for a percentage of new homes that are built to green building standards. If the target is met, no new regulations will take effect; if the target is not met, a feebate similar to that for new commercial construction will come into effect.
- 3) For existing commercial buildings, the policy proposes disclosure of building performance in the areas of energy usage, water usage and stormwater management. The policy also includes incentives to improve environmental performance. The building performance measures would identify buildings that have the greatest potential to improve performance and could help prospective buyers and tenants make informed decisions.

4) Disclosure of building performance measures was also considered for existing single-family residential buildings, but the stakeholder meetings highlighted the need to develop much better financing options for homeowners than are currently available. As a result, no requirements are proposed for existing homes at this time, and instead OSD is exploring options including the development of a large-scale fund to accelerate green building upgrades to existing buildings.

	Commercial & Multifamily	Single-Family Residential
New	<ul style="list-style-type: none"> • Feebate 	<ul style="list-style-type: none"> • Performance target • Feebate if not met
Existing	<ul style="list-style-type: none"> • Disclose building performance score 	<ul style="list-style-type: none"> • Exploring financing and performance score

Table 1. High Performance Green Building Policy overview.

IV. New Commercial Construction Feebate

The proposed commercial green building feebate will apply to new construction of multifamily buildings greater than or equal to 5,000 gross square feet and commercial buildings greater than or equal to 20,000 gross square feet. Specific building types and permit occupancy classifications (defined by the 2007 Oregon Structural Specialty Code) covered by the feebate are as follows:

- Indoor public and private assembly buildings (A1, A2, A3).
- Hospitals, group homes and assisted living facilities (I1, I2, I3, I4, I5).
- Hotels and motels (R1).
- Multifamily residential homes (R1, R2, R4).
- Offices and businesses (B).
- Retail and wholesale stores (M).
- Schools and day-care facilities (E).

A “commercial” building designation is determined by BDS at the time of permit review and includes multifamily residences.

Industrial buildings and warehouses are not covered by the feebate since these building types are generally unoccupied or consume resources primarily through manufacturing processes rather than building operation.

The feebate will also apply to “major remodels,” defined as permitted alterations or additions in which:

- The project Permit Valuation of Work exceeds \$250,000,

AND at least one of the following is true:

- At the time of application, the Permit Valuation of Work is greater than or equal to the Real Market Value of the property as determined by the County Tax Assessor;
-or-
- A Change of Occupancy affects more than one-third of the building gross square footage;
-or-
- A conversion of more than 5,000 gross square feet from unheated to heated space;
-or-
- An addition of building gross square footage greater than or equal to the gross square footage of the existing building.

The proposed green building feebate for new commercial construction will be phased in according to the following time frame:

- Projects smaller than 50,000 gross square feet that have permits submitted after July 1, 2010.
- Projects greater than or equal to 50,000 gross square feet that have permits submitted after January 1, 2011.

Projects exempted from the feebate include new construction or additions that are less than 5,000 gross square feet for multifamily residences or 20,000 gross square feet for commercial buildings, initial tenant improvements in newly constructed buildings and permits that involve only site improvements. Projects will have the opportunity to appeal the policy requirements based on building occupancy or unusual circumstances.

The green building feebate is intended to increase building environmental performance while complementing existing financial incentives offered by ETO and ODOE for energy-saving measures and sustainable building. The proposed feebate would present developers of new commercial and multifamily buildings with three green building incentive options as displayed in Figure 3 and described as follows:

- 1) Reward. Receive a one-time reward payment from the City of Portland for projects that achieve a high performance green building standard and significantly improve energy performance beyond the current minimum Oregon requirements (Chapter 13 of the Oregon Structural Specialty Code). Proposed green building standards are shown on Tables 2 and 3. The reward is paid to the building owner by the City of Portland upon receipt of third-party verification (such as a copy of the USGBC Rating Certificate and Final LEED Review). The amount of the reward varies based on the level of environmental performance and the gross square footage of the building. Buildings of any size are eligible for rewards. Affordable housing projects are eligible to receive the first level of reward payment by achieving what otherwise is defined as the “waiver” level of performance. To receive higher reward levels, affordable housing projects will need to reach the same minimum requirements as other projects.

-or-

- 2) Waiver. Receive a fee waiver for projects that build to a green building standard and improve energy performance beyond the minimum Oregon code. Proposed green building standards are shown on Tables 2 and 3. To qualify for the waiver, project developers must document registration for the green building standard (such as a LEED Registration Number and Scorecard) when applying for a building permit followed by submitting third-party verification within one year after receiving a Certificate of Occupancy from BDS.

-or-

- 3) Fee. Pay a one-time fee to mitigate the greenhouse gas emissions and other environmental impacts for projects that are built to the minimum Oregon code. The fee will be based on the gross square footage of the building.

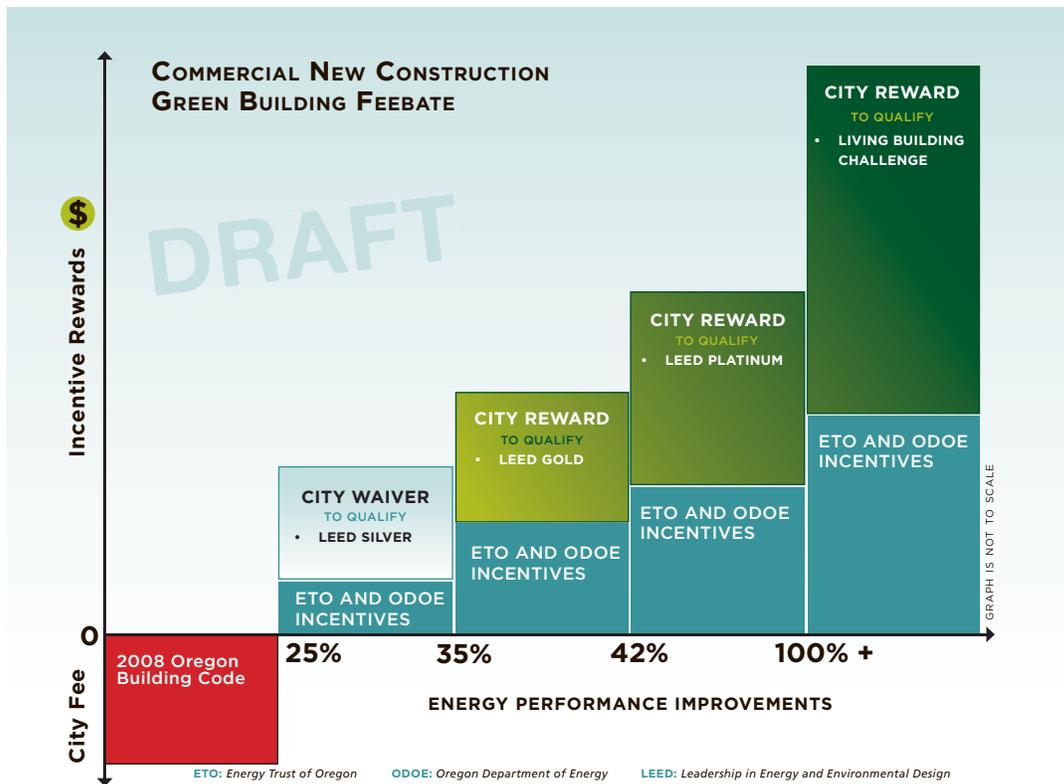


Figure 3. Proposed commercial new construction green building feebate.

The feebate is based on third-party certification programs established by Earth Advantage and the U.S. Green Building Council. Projects pursuing LEED certification must also achieve specific minimum point thresholds for energy and water efficiency credits:

- Design building envelope, lighting and mechanical systems to optimize energy performance (LEED EA1).
- Install on-site renewable energy (LEED EA2).
- Reduce landscaping irrigation (LEED WE1).
- Reduce building water use (LEED WE3).

Specific green building requirements are described in Table 2 for multifamily residential buildings and Table 3 for all other commercial building types covered by the feebate.

Applicable green building standards, energy efficiency thresholds and minimum environmental performance requirements will be reevaluated every three years in accordance with building code cycles to ensure that the feebate continuously reaches beyond the Oregon code.

PDC is proposing that multifamily rental housing projects that receive PDC loans and/or grants

in the amount of \$500,000 or more and which are a minimum of 50,000 square feet in size must meet the “waiver” level of performance. In addition, PDC-funded affordable projects must meet the following requirements to protect the health of vulnerable populations and other building occupants:

- a) Composite wood products shall not contain synthetic urea formaldehyde. These materials include hardwood plywood, particleboard, medium density fiberboard and thin medium density fiberboard.
- b) Polyvinyl chloride flooring shall not be installed.

Feebate Option	Green Building Standards ¹	Minimum Requirements	Feebate ²
Reward³	Living Building Challenge	Net-zero energy and water documentation (1 year)	\$2.58 – \$5.15 per sf
	LEED New Construction 2.2 Or, for projects <50,000 square feet, Earth Advantage ⁴	Platinum certification, PLUS: EAc1 + EAc2: 10 points WEc1 + WEc3: 4 points	\$1.03 – \$2.06 per sf
	LEED New Construction 2.2 Or, for projects <50,000 square feet, Earth Advantage ⁴	Gold certification, PLUS: EAc1 + EAc2: 8 points WEc1 + WEc3: 3 points	\$0.51 – \$1.03 per sf
Waiver	LEED New Construction 2.2 Or, for projects <50,000 square feet, Earth Advantage ⁴	Silver certification, PLUS: EAc1 + EAc2: 5 points WEc1 + WEc3: 2 points	Not Applicable
Fee	None		(-) \$0.51 – \$1.03 per sf

Table 2. Proposed multifamily residential new construction green building standards and feebate specifications.

¹ LEED rating systems are currently in the process of being updated by the U.S. Green Building Council. Equivalent LEED 2009 points will be determined after the next version of LEED is released.

² A feebate range is provided here for comment; however, the level of the feebate will be established at a specific amount. The possible range presented here is based on average values for energy use in commercial buildings multiplied by measure life multiplied by dollars per ton of carbon. The low end of the range assumes a 15-year operational period for the building with a value of \$12 per metric ton of carbon dioxide. Since estimates vary considerably for measure life and for the appropriate valuation of carbon, the high end can be viewed as representing a measure life of 30 years or a carbon price of \$24 per metric ton or some combination of the two.

³ Affordable housing projects will also qualify for the reward if they achieve the minimum feebate waiver requirements. However, to receive higher reward levels, affordable housing projects will need to reach the same minimum requirements as other projects.

⁴ The Earth Advantage option provides a prescriptive alternate path to LEED certification and can be used to meet the green standards for multifamily residential projects less than 50,000 square feet.

Feebate Option	Green Building Standards ⁵	Minimum Requirements	Feebate ⁶
Reward	Living Building Challenge	Net-zero energy and water documentation (1 year)	\$8.65 – \$17.30 per sf
	LEED New Construction 2.2 Core and Shell 2.0 Schools Retail	Platinum certification, PLUS: EAc1 + EAc2 : 10 points WEc1 + WEc3: 4 points	\$3.46 – \$6.92 per sf
	LEED New Construction 2.2 Core and Shell 2.0 Schools Retail	Gold certification, PLUS: EAc1 + EAc2: 8 points WEc1 + WEc3: 3 points	\$1.73 – \$3.46 per sf
Waiver	LEED New Construction 2.2 Core and Shell 2.0 Schools Retail	Silver certification, PLUS: EAc1 + EAc2: 5 points WEc1 + WEc3: 2 points	Not Applicable
Fee	None		(-) \$1.73 – \$3.46 per sf

Table 3. Proposed commercial new construction green building standards and feebate specifications.

⁵ LEED rating systems are currently in the process of being updated by the U.S. Green Building Council. Equivalent LEED 2009 points will be determined after the next version of LEED is released.

⁶ A feebate range is provided for comment; however, the level of the feebate will be established at a specific amount. The possible range presented here is based on average values for energy use in commercial buildings multiplied by measure life multiplied by dollars per ton of carbon. The low end of the range presented here assumes a 15-year operational period for the building with a value of \$12 per metric ton of carbon dioxide. Since estimates vary considerably for measure life and for the appropriate valuation of carbon, the high end can be viewed as representing a measure life of 30 years or a carbon price of \$24 per metric ton or some combination of the two.

⁷ LEED NC 2.2 now accepts prescriptive options detailed by Advanced Buildings Core Performance as an alternate path to building simulation for up to five EAc1 points. This prescriptive path will also be acceptable for LEED NC 2009 certified projects less than 50,000 gross square feet.

V. New Residential Construction Feebate

A “residential” building designation is determined by BDS at the time of permit review and includes single-family detached homes, duplexes and rowhouses.

The proposed green building policy will accelerate the transition to green building as standard practice. Many area builders have expressed their commitment to building better-performing homes, and in the Portland home construction industry, two certification programs have gained traction as markers of exemplary environmental performance, Earth Advantage (EA) and LEED for Homes. With this policy, the City will work with area builders to continue to increase the prevalence of certified green homes and to achieve performance targets for the percentage of new homes built that achieve these standards. The proposed performance targets are as follows:

- In 2009, 20 percent of new homes certified as EA or LEED for Homes.
- In 2010, 30 percent of new homes certified as EA or LEED for Homes.
- In 2011, 40 percent of new homes certified as EA or LEED for Homes.

The City will annually monitor the percentage of EA or LEED for Homes projects to determine whether the policy’s performance targets are achieved. Verification of performance targets will be based on all new residential buildings greater than or equal to 1,200 square feet with an R3 permit occupancy classification (defined by the 2007 Oregon Structural Specialty Code).

If market share performance targets are not achieved during any given year of the policy, a residential green building feebate will become effective six months later that will apply to new home construction projects greater than or equal to 1,200 square feet. New construction projects smaller than 1,200 square feet and additions or alterations to existing homes will be exempt from the green building fee but are eligible for reward payments. Projects will have the opportunity to appeal the policy requirements based on building occupancy or unusual circumstances.

The residential green building feebate is intended to increase building environmental performance while complementing existing financial incentives offered by ETO and ODOE. Should the feebate take effect, builders of new homes would have three options as displayed in Figure 4 and described as follows:

- 1) Reward. Receive a one-time reward payment from the City of Portland for projects that build to a high performance green building standard with third-party verification and significantly improve energy performance beyond the minimum Oregon requirements (Chapter 13 of the Oregon Structural Specialty Code), as described in Table 4. The

amount of the reward varies based on the level of environmental performance and is a fixed dollar figure per home (i.e., it does not vary with the size of the home). A reward is paid to the homeowner by the City of Portland upon receipt of third-party verification (such as a copy of the USGBC Rating Certificate and Final LEED Review). Homes smaller than 1,200 square feet are also eligible for rewards.

-or-

- 2) Waiver. Receive a fee waiver for projects that build to a green building standard and improve energy performance beyond the minimum Oregon code, as described in Table 3. To qualify for the waiver, home builders must document registration for the green building standard (such as an EA Points Worksheet or LEED Scorecard) when applying for a building permit followed by submitting third-party verification within one year after receiving a Certificate of Occupancy from BDS.

-or-

- 3) Fee. Pay a one-time fee to mitigate the environmental impacts for projects that build to the minimum Oregon code. The fee will vary based on the square footage of the home and only apply to new construction greater than or equal to 1,200 square feet.

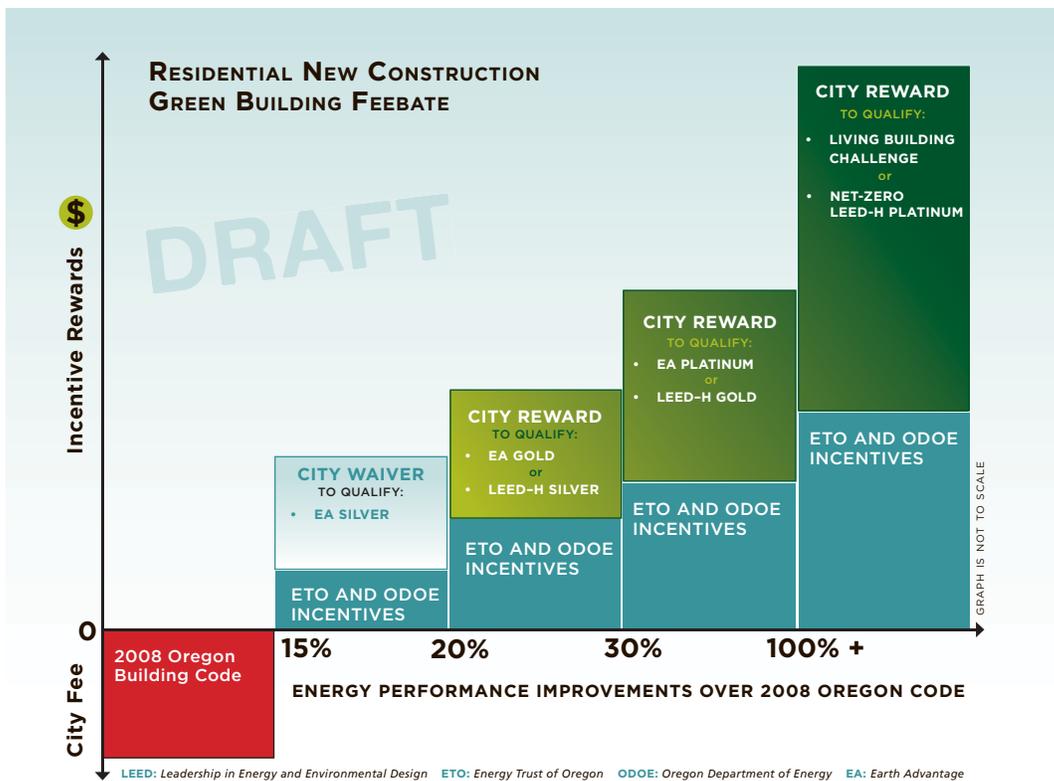


Figure 4. Proposed residential new construction green building feebate.

In addition to achieving third-party certification, projects must meet minimum energy performance requirements as shown in Table 4, such as a minimum Home Energy Rating System (HERS) score, NW Energy Star Homes certification, or Oregon High Performance Homes (HPH) Business Energy Tax Credit qualification.

To enable progressive green building market transformation, the residential performance targets, applicable green building standards, feebate thresholds and minimum environmental performance requirements will be evaluated and reset every three years in accordance with building code cycles.

Feebate Option	Green Building Standards	Minimum Requirements	Feebate ⁸
Reward ⁹	LEED for Homes Platinum, or Living Building Challenge	HERS 0, or Net-zero energy documentation (1 year)	\$10,000 per home
	EA Platinum, or LEED for Homes Gold	HERS 60, or Oregon HPH	\$2,570 – 5,140 per home
	EA Gold, or LEED for Homes Silver	HERS 70	\$1,285 – 2,570 per home
Waiver	EA Silver	HERS 75, or NW Energy Star Homes	Not Applicable
Fee	None		(-) \$0.51 – 1.03 per sf

Table 4. Proposed residential new construction green building feebate specifications.

⁸ A feebate range is provided here for comment; however, the level of the feebate will be established at a specific amount. The possible range presented here is based on average values for energy use in residential buildings multiplied by measure life multiplied by dollars per ton of carbon. The low end of the fee range presented here assumes a 15-year operational period for the building with a value of \$12 per metric ton of carbon dioxide. Since estimates vary considerably for measure life and for the appropriate valuation of carbon, the high end can be viewed as representing a measure life of 30 years or a carbon price of \$24 per metric ton or some combination of the two.

⁹ The reward for qualifying homes will be a flat amount based on a typical home size of 2,500 square feet.

VI. New Construction Green Building Funds

Fees collected by the City of Portland through the implementation of the new construction portions of the policy would create separate self-sustaining, revenue-neutral commercial and residential green building funds that will be used to pay for feebate rewards, technical assistance, project recognition and green building education programs. The green building funds may also support green affordable housing grants and additional financial or technical assistance with the permitting processes related to green building. Green building fees would be dedicated to programs to improve environmental performance of buildings and reduce greenhouse gas emissions. Allocation of the commercial and residential green building funds would be determined with oversight from a City-appointed citizen advisory board (either existing or newly created).

VII. Existing Commercial Building Performance Measures

A “commercial” building designation is determined by Bureau of Planning zoning classifications and BDS occupancy classifications including multifamily residences.

Industrial buildings are not required to disclose building performance measures since these building types are generally unoccupied or consume resources primarily through manufacturing processes rather than building operation. However, disclosure of on-site stormwater management still applies to industrial buildings.

To encourage green renovations and on-site stormwater management for existing commercial and multifamily buildings, the policy proposes to require disclosure of environmental performance measures using the U.S. Environmental Protection Agency (EPA) Energy Star Portfolio Manager tool. As part of building performance disclosure, owners or managers of commercial buildings greater than or equal to 20,000 gross square feet must report:

- 1) Building Performance. Participate in the EPA Energy Star Portfolio Manager program, including reporting building characteristics, energy use during the previous 12 months, water consumption levels and indoor environmental quality. If the building is occupied by tenants without accessible energy and water use consumption data (such as triple net leases), the building owner or manager must provide formal requests for utility bill summaries with guidance from OSD. Accuracy of the information provided about the building must be verified by a professional engineer in accordance with EPA requirements for Energy Star certification.

- 2) Stormwater Management. Disclose whether the building qualifies for the City of Portland’s Clean River Rewards (CRR) stormwater utility discount program and indicate the extent of stormwater managed on-site. With CRR, Portland ratepayers managing stormwater from a building and site can receive up to a 100% discount for the on-site stormwater management charges, depending on the extent that stormwater is managed on site.

Building performance measures, including Energy Star ratings (as applicable), energy use intensities, carbon dioxide emissions, water consumption rates and other relevant metrics, will be disclosed to OSD through the submittal of an EPA Energy Star Portfolio Manager Statement of Energy Performance or online reporting (http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager). Building owners or managers may choose to voluntarily disclose building performance measures through a public online resource, such as Portland Maps. Public disclosure of building performance could help prospective buyers and tenants make informed decisions.

An Energy Star rating provides a climate-normalized ranking of building energy performance, from 1 to 100, based on a U.S. Department of Energy survey of nationwide commercial building stock. The following building types are currently eligible for an Energy Star rating:

- Bank/Financial Institutions.
- Hospitals.
- Hotels and Motels.
- K-12 Schools.
- Medical Offices.
- Offices.
- Residential Halls/Dormitories.
- Retail Stores.
- Supermarkets.
- Warehouses.

In addition to the EPA Energy Star Portfolio Manager building performance measures, all qualifying buildings that are not registered for the CRR program must fill out and submit the appropriate program form to BES. If a building site does not qualify for the CRR program, this information will also be disclosed.

Disclosure of EPA Energy Star building performance measures and CRR reporting will be phased in as shown in Table 5. Building performance measures must be updated at least once every three years, including third-party verification. All new construction projects covered by the proposed feebate must also participate in disclosure of environmental performance measures within three years after receiving a Certificate of Occupancy. Building owners or managers will

have the opportunity to appeal the policy requirements based on unusual circumstances. EPA Energy Star ratings can identify buildings that have the highest potential for improvement. Owners or managers of buildings eligible for Energy Star ratings that do not achieve a minimum rating of 30 will be contacted by OSD to identify strategies, financing options and incentives to reduce energy use within three years as specified in Table 5. Buildings that do not achieve either a rating of at least 30 or a 15 percent reduction in energy use within three years will be subject to a fine assessed at \$0.01/gross square foot for every point below the EPA Energy Star rating threshold. A fine may be assessed once every three years.

A building’s Energy Star rating will be assumed to be zero if disclosure requests for building performance measures are not received by OSD, resulting in a fine of \$0.30/gross square foot. Building owners or managers will have the opportunity to appeal the fine with OSD based on unusual circumstances. To minimize the occurrence of fines, OSD will provide technical assistance and explore energy efficiency financing options including the development of a large-scale fund to accelerate green building upgrades to existing buildings. Any fines collected by the City of Portland will be restricted to funding technical assistance and outreach programs for existing buildings.

Building Size (gross square feet)	Disclosure Date	Performance Improvement Date
Greater than 100,000	January 1, 2011	January 1, 2014
Between 50,000 and 100,000	January 1, 2012	January 1, 2015
Greater than or equal to 20,000 and less than 50,000	January 1, 2013	January 1, 2016

Table 5. Proposed timeline for disclosure of environmental performance measures.

Buildings that achieve a green building third-party certification, including EPA Energy Star, Green Globes, LEED Existing Buildings Operation and Maintenance, or a BetterBricks Office Energy Showdown award will be eligible for project recognition on the OSD Web site. In addition, starting in 2011, OSD will annually recognize and award existing buildings and building operators demonstrating the greatest environmental performance and improvement in efficiency, and achieving at least 75 percent through the CRR stormwater discount incentive program, or an increase in the CRR discount. These buildings will also receive recognition on the BES Web site.

VIII. Institutions with Approved Master Plans

Institutions with City-approved multi-year master plans may elect to achieve portfolio-wide performance improvements to new and existing buildings that meet the performance objectives of the policy in lieu of the proposed green building feebate for new construction projects. These performance commitments will be integrated into master plans and considered as part of the routine master plan review process.

IX. Existing Residential

The proposed policy does not include new requirements for existing residential buildings at this time. Improving the environmental performance of existing homes, however, is essential to achieving the City's climate protection, energy and economic goals. To address this, OSD is currently developing financing options that make energy and environmental upgrades easy and affordable to homeowners. Financing options will consider the needs of low-income homeowners to help mitigate the effects of future energy cost increases.

OSD is also evaluating emerging models from other cities, including Berkeley, California, the Cambridge Energy Alliance from Cambridge, Massachusetts, and the Palm Desert Energy Independence Program. Legislation may be introduced in the 2009 Oregon legislature to enable local or state government to establish funding for large-scale energy retrofits, and the City will continue to partner with others to identify the most promising options.

Existing homes are the largest category of residential energy use and greenhouse gas emissions. Conservation measures are needed to reduce emissions, save on energy costs and offset future cost increases for electricity, natural gas and fuel oil. An effective policy will address upgrading houses for better performance and empowering homeowners to effectively manage energy use.

In order to upgrade energy performance, homes require individual evaluation to identify performance improvement measures appropriate to its particular needs. This strategy depends on availability of a commonly accepted evaluation method. Currently, EA and ETO are piloting an Energy Performance Score (EPS) program. The EPS is expected to provide a simple score that summarizes a home's current and potential performance, and it will likely also produce a set of recommendations for cost-effective upgrade measures. OSD will track the progress of the EPS to determine its rate of acceptance in the market and the number of homes that are upgraded. This information will guide the City in determining whether an incentive or mandate to require an EPS should be considered to accelerate home improvements.

OSD will report to City Council by January 2010 with recommendations for further action.

X. Green Building Technical Assistance and Education

To support implementation of the High Performance Green Building Policy, the City will expand existing green building technical assistance programs and support new programs including:

1. Green building specialists in the Development Services Center to assist permit applicants in meeting the policy goals.
2. Training on LEED and green building design, engineering and construction.
3. Workshops to assist owners and managers of existing buildings with Energy Star Portfolio Manager reporting.
4. BES Clean River Rewards program assistance in registering for the stormwater discount incentive and ideas for possible increase in the percent discount for on-site stormwater managed.

OSD will also work with buyers, tenants, developers, builders, financial and real estate professionals, trade unions, appraisers, other building industry professionals and City specialists to significantly expand awareness of project requirements, green building benefits, and continuous management of building environmental performance.

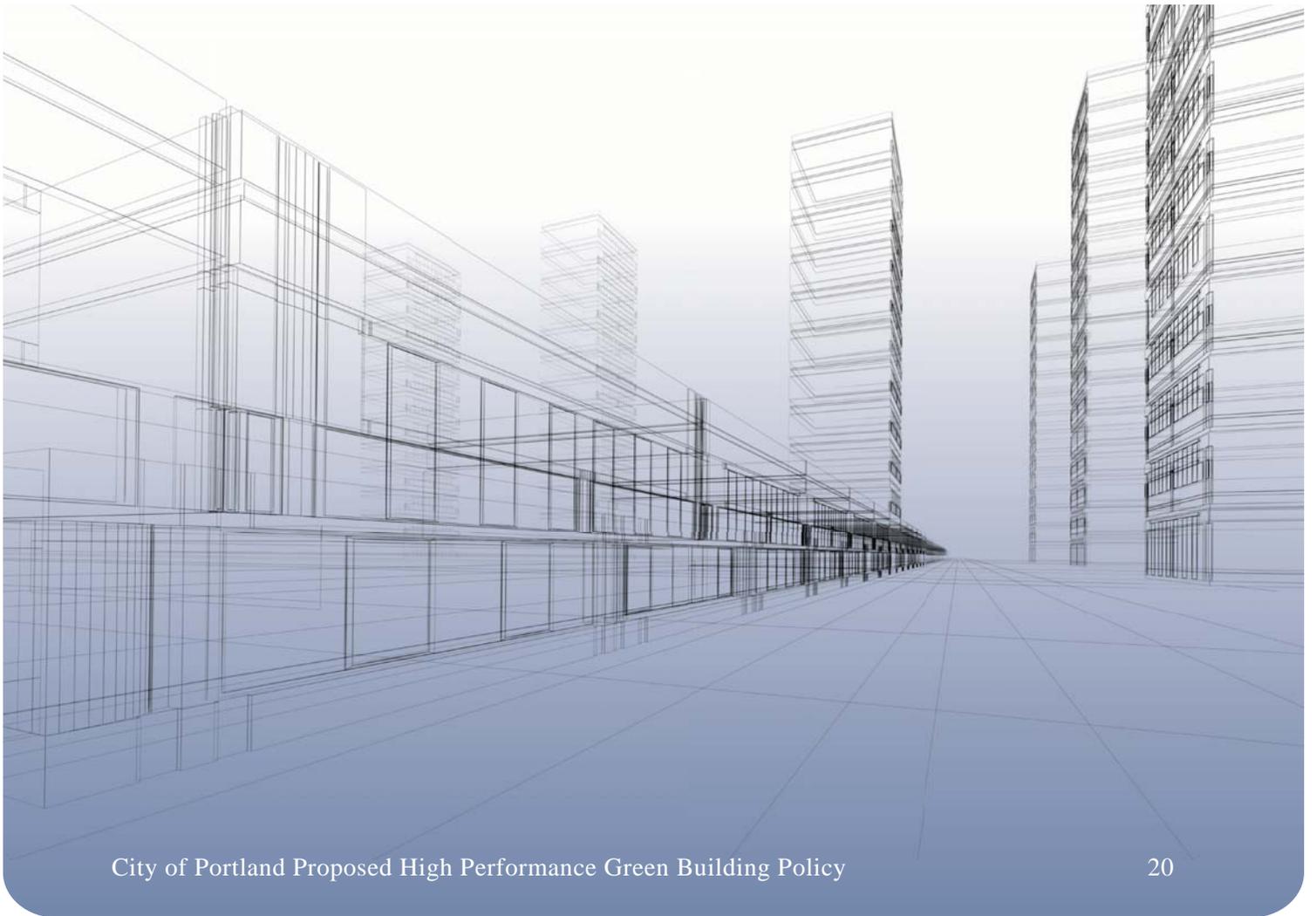
XI. Monitoring, Evaluation and Adaptive Management

OSD will establish baselines and performance parameters to measure annual progress toward the City's green building goals, including targets set by the City's climate protection strategy and the Architecture 2030 Challenge that requires all new construction to be "carbon-neutral" by 2030. Progress toward goals will be monitored and annual performance reports will be issued, including recommendations for improvement and broadening community awareness. In accordance with building code cycles, specific policy parameters and green building performance criteria will be updated through an administrative process every three years.

XII. Public Participation and Next Steps

We invite you to participate in the green building policy process by reviewing the proposed High Performance Green Building Policy and submitting your comments online at www.portlandonline.com/osd/gbpolicy. Comments received by January 20, 2009 will be considered in the next version of this policy in preparation for City Council consideration.

By engaging members of the public and stakeholders with diverse interests, OSD seeks to craft a fair, effective, community-wide green building policy. Upon adoption of the policy, City staff will conduct an administrative rules process that will include specific submittal requirements for the new construction feebate and existing building performance disclosure.



Incentives for Green Building Beyond City Owned Projects

Research Presented to the Sustainable Portland Committee

Shelley Hodges

Muskie School of Public Service

May 4, 2009



Task Force Recommendation Item 3

Part 1: Adopt a requirement that all municipally funded new construction projects receive certification through the US Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system, targeting a minimum of silver rating

Part 2: Encourage non-city projects to receive LEED certification

-Possible avenue to achieve this: initiate a High Performance Green Building Policy/Fee-Bate program similar to one being developed in Portland Oregon

√Check!

Portland Oregon's High Performance Green Building Policy with Fee-bate

- New Commercial Construction Fee-bate:
 - *multifamily buildings $\geq 5,000$ gross square feet
 - *commercial buildings $\geq 20,000$ gross square feet
- **Reward**: 1x reward payment from City
 - high performance green building standard + significantly improved energy performance beyond current minimum Oregon requirements
 - amount varies based on level of environmental performance and the gross square footage of the building
- **Waiver**: Fee waived for projects that build to a green building standard and improved energy performance beyond minimum Oregon code
- **Fee**: 1x fee to mitigate greenhouse gas emissions and other environmental impacts for projects that are built to the minimum Oregon code
 - Fee based on the gross square footage of the building

Source: City of Portland Bureau of Planning and Sustainability: Policy Document,
<http://www.portlandonline.com/osd/index.cfm?c=45879&>

New Commercial Construction Fee-bate:

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are needed to see this picture.

Source: City of Portland Bureau of Planning and Sustainability: Policy Document,
<http://www.portlandonline.com/osd/index.cfm?c=45879&>

New Residential Construction Feebate:

- **Reward:** 1x reward payment from City to homeowner
 - high performance green building standard + significantly improved energy performance beyond minimum Oregon requirements
 - Homes smaller than 1,200 square feet are also eligible for rewards
 - Amount varies based on level of environmental performance and is a fixed dollar figure per home (i.e., it does not vary with the size of the home)
- **Waiver:** Fee waived for projects that build to a green building standard + improve energy performance beyond the minimum Oregon code
- **Fee:** 1x fee to mitigate the environmental impacts for projects that build to the minimum Oregon code
 - Fee varies based on the square footage of the home and only apply to new construction greater than or equal to 1,200 square feet

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Existing Commercial Building Performance Measures

Encourage green renovations and on-site stormwater management for existing commercial and multifamily buildings by requiring disclosure of environmental performance measures using the U.S. Environmental Protection Agency (EPA) Energy Star Portfolio Manager tool

- Owners or managers of commercial buildings greater than or equal to 20,000 gross square feet must report:
 - 1) Building Performance. Accuracy of the information provided about the building must be verified by a professional engineer in accordance with EPA requirements for Energy Star certification
 - 2) Stormwater Management

~Building owners or managers may choose to voluntarily disclose building performance measures through a public online resource, such as Portland Maps. Public disclosure of building performance could help prospective buyers and tenants make informed decisions

Source: City of Portland Bureau of Planning and Sustainability: Policy Document, <http://www.portlandonline.com/osd/index.cfm?c=45879&>

Existing Residential

The proposed policy does not include new requirements for existing residential buildings at this time, however:

- policy creators recognize that improving the environmental performance of existing homes is essential
- currently developing financing options that make energy and environmental upgrades easy and affordable to homeowners.
- financing options will consider the needs of low-income homeowner to help mitigate the effects of future energy cost increases

Source: City of Portland Bureau of Planning and Sustainability: Policy Document,
<http://www.portlandonline.com/osd/index.cfm?c=45879&>

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are needed to see this picture.

- The green building funds may also support green affordable housing grants programs to improve environmental performance of buildings and reduce greenhouse gas emissions
- 3rd Party verification is required application of fee-bate rewards, waivers, and fees

Source: City of Portland Bureau of Planning and Sustainability: Policy Document, and Policy Presentation,
<http://www.portlandonline.com/osd/index.cfm?c=45879&>

Policy Process: Steps Taken in Portland, OR

1. Bureau of Planning and Sustainability developed an initial framework
2. General public meeting
3. 8 facilitated Stakeholder meetings
4. Policy refined and released for Public comment period (30-60 days)
5. Final version for City Council consideration (later this summer)

(Source: correspondence with Vinh Mason, Policy Analyst City of Portland Bureau of Planning and Sustainability)

Challenges/Lessons

-policy found challenges:

- when public and stakeholder involvement was more limited (early on in the policy process)

- overcoming political positions that are opposed philosophically

(Source: correspondence with Vinh Mason, Policy Analyst City of Portland Bureau of Planning and Sustainability)

Key Points of Policy Success

- ___ -Market-based incentives to encourage green building and energy performance improvements rather than prescriptive requirements
- Community engagement in deliberative governance through stakeholder involvement and public comments
- Adaptive policy design to allow for flexibility as existing green building programs evolve and new technologies and practices emerge
- Intercity communication to share policy development experiences

(Source: correspondence with Vinh Mason, Policy Analyst City of Portland Bureau of Planning and Sustainability)

Economics

Cost to City:

In Portland Oregon, half a million dollars has been assumed for technical assistance and administration for the fee

Cost to the Developer: The intention of the policy is to offset all of the added costs. For those projects that do not comply, the fees would represent a small, but noteworthy, percent of total project cost

Administrative cost: The Office of Sustainable Development has five members of staff, two of whom will oversee aspects of the Green Building Fee-bate policy

(Source: Case Study, Seattle New Building Energy Efficiency Policy Analysis, input from Vinh Mason, Policy Analyst City of Portland Bureau of Planning and Sustainability and Bill Jackson, Developer, updated 9/23/08 www.seattle.gov/environment/documents/GBTF_%20Portland_Feebate_Case_Study.pdf)

Pay back:

The initial investment pays back quickly in reduced energy, water and sewer costs, improved comfort and healthier air quality

Job Growth:

Analysis of the new construction component of the High Performance Green Building Policy by ECONorthwest found that the policy would result in an additional 100 jobs in Oregon for every year the policy is in place

(Source: City of Portland Bureau of Planning and Sustainability: Q and A, <http://www.portlandonline.com/osd/index.cfm?c=45879&>)

Summary: Possibilities for Portland, ME

- Develop a policy that utilizes Portland Oregon's High Performance Green Building Policy as framework/guide adapted to Maine's business climate
- Keep community and stakeholder engagement as a major priority from the start
- Keep process flexible and open to review



ARTICLE VII. GREEN BUILDING CODE

***Editor's Note:** Article VII (Green Building Code) was adopted in its entirety by Council Order 187-08/09 and passed on 4-6-09

Sec. 6-165. Purpose.

The purpose of this article is to promote standards for construction that result in buildings that are environmentally responsible, energy efficient, provide healthy places to work consume less energy and create fewer emissions.

Sec. 6-166. Definitions.

The following words shall be defined as set forth below for use in this article.

Funded in whole or in part: Receipt of tax increment financing or a grant, HOME loan, Community Development Block Grant loan or Neighborhood Stabilization Program loan greater than twenty-five thousand dollars (\$25,000.00).

Renovation:

(a) At the time of the application, the total construction cost is greater than or equal to the market value of the property as determined by the city's tax assessor;

or

- (b) A conversion from non-conditioned to conditioned space; or
- (c) An addition of building gross square footage greater than or equal to the gross square footage of the existing building; or
- (d) A change of use.

Sec. 6-167. Standards for new buildings and renovation projects.

All new construction and renovation projects to be owned, or occupied by the city of Portland that are of 5,000 square feet in floor area or greater and have a total construction cost of greater than \$250,000.00 and all new construction and renovation projects to be funded in whole or in part by the city of Portland that are of 10,000 square feet in floor area or greater and have a total construction cost of greater than \$250,000 shall be certified to the U.S. Green Building Council's ("USGBC") Leadership in Energy and Environmental Design ("LEED") Silver Standard, and shall achieve the minimum LEED optimize energy performance points necessary to meet the targets of the 2030 challenge as published by Architecture 2030.

Sec. 6-168. Submission of LEED checklist.

Upon submission of an application for a building permit for new construction or renovation projects that are required to meet the standards set forth in section 6-167, the applicant shall also submit a LEED checklist, along with a narrative description detailing how the LEED points will be achieved, including the points necessary to meet the 2030 challenge.

A copy of the final submission of LEED documentation to the USGBC shall be submitted to the city's department of planning and urban development prior to the issuance of a certificate of occupancy for new construction or renovation projects that are required to meet the standards set forth in section 6-167. A temporary certificate of occupancy may be issued by the city if necessary prior to the submission of final LEED documentation to the USGBC.

Sec. 6-169. Certificate of Occupancy.

A copy of the final submission of LEED documentation to the USGBC shall be submitted to the city's department of planning and urban development prior to the issuance of a certificate of occupancy for new construction or renovation projects that are required to meet the standards set forth in section 6-167. A temporary certificate of occupancy may be issued by the city if necessary prior to the submission of final LEED documentation to the USGBC.

Sec. 6-170. Waivers.

The requirement of LEED certification may be waived in an emergency situation or under documented circumstances showing that compliance with this requirement would be cost prohibitive and/or create an unreasonable burden on the construction project or city; have a negative impact on an historic structure; or, if due to specific circumstances, would defeat the intent of LEED certification. Any request for waiver of LEED certification must be accompanied by specific reasons for the waiver and approved by the director of planning and urban development. If a waiver is granted, a reasonable effort must still be made to maximize the number of LEED points attained by the project.

Sec. 6-171. Appeals.

Any applicant aggrieved by the decision of the director of planning and urban development may appeal that decision to the city council by filing an administrative appeal within twenty one (21) days of the issuance of the decision. The city council shall place the appeal on its next regularly scheduled meeting. The appeal shall be de novo and public comment shall be accepted. The decision of the city council shall be in writing, final and non-appealable.

Sec. 6-172. Applicability.

This ordinance shall apply to new construction and renovation projects to be owned, occupied, or funded in whole or in part by the city of Portland for which site plan applications, building permit applications (not associated with an approved site plan), or funding assistance requests are submitted on or after the effective date of this ordinance.



PORTLAND MAINE

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Planning & Urban Development Department
Penny St. Louis Littell, Director

September 16, 2009

Mr. Kevin Gough
48 Union Wharf
Portland, Maine 04101

RE: Baxter Library Green Building Code Waiver Request

Dear Mr. Gough:

Thank you for your letter, dated September 14, 2009, requesting a waiver of LEED certification for property being renovated at 621 Congress Street, Portland, Maine. The historic building being renovated, the Baxter Library Building, is indeed an important structure within the City fabric. Through your submission for a waiver, you present that you will exercise good faith in employing as many energy and environmental design elements as possible, both during and after the rehabilitation project.

Based upon a staff review of the documentation provided and the constraints placed on rehabilitation design because of the historic nature of the structure, compliance with LEED certification would be cost prohibitive. Therefore, in accordance with Sec. 6-170 Waivers of Article VII Green Building Code of the City of Portland Code of Ordinances, a conditional waiver has been approved for this project subject to the following conditions:

1. The applicant shall submit an addendum to the construction documents with the application for a Building Permit specifying compliance with applicable green building practices including but not limited to the following LEED criteria:
 - a. SS Credit 8: Light Pollution Reduction
 - b. WE Prerequisite 1: Water Use Reduction
 - c. EA Prerequisite 1: Fundamental Commissioning of Building Energy Systems
 - d. EA Prerequisite 2: Minimum Energy Performance – Option 2. Prescriptive Compliance Path: ASHRAE Advanced Energy Design Guide Path 1. ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004

- e. EA Prerequisite 3: Fundamental Refrigerant Management
 - f. MR Prerequisite 1: Storage and Collection of Recyclables
 - g. MR Credit 2: Construction Waste Management – minimum 50%
 - h. MR Credit 4: Recycled Content – 10% minimum
 - i. MR Credit 6: Rapidly Renewable Materials
 - j. IEQ Prerequisite 1: Minimum Indoor Air Quality Performance – ASHRAE Standard 62.1-2007
 - k. IEQ Credit 3.1: Construction Indoor Air Quality Management Plan – During Construction
 - l. IEQ Credit 3.2: Construction Indoor Air Quality Management Plan – Before Occupancy
 - m. IEQ Credit 4.1: Low-Emitting Materials – Adhesives and Sealants
 - n. IEQ Credit 4.2: Low-Emitting Materials – Paints and Coatings
 - o. IEQ Credit 4.3: Low-Emitting Materials – Flooring Systems
 - p. IEQ Credit 4.4: Low-Emitting Materials – Composite Wood and Agrifiber Products
 - q. IEQ Credit 7.1: Thermal Comfort – Design – ASHRAE 55-2004
2. Prior to a Certificate of Occupancy all documentation demonstrating compliance with the above listed conditions (a-q) shall be submitted to the Planning and Urban Development Department.

Thank you for your continued effort to renovate the Baxter Library Building at 621 Congress.

Sincerely,



Penny Littell
Director, Planning and Urban Development



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Planning & Urban Development Department

Penny St. Louis Littell, Director

October 15, 2010

Christopher Pachios
Waterfront Maine
224 12th Avenue
New York, NY 10001

Dear Mr. Pachios:

Thank you for the letters dated April 1, 2010 (Visnick & Caulfield), May 11, 2010, September 10, 2010 and October 14, 2010 (Winton Scott Architects, PA), submitted on behalf of Waterfront Maine, in which a waiver of LEED Certification for the building at 254-258 Commercial Street, otherwise known as the Cumberland Cold Storage building, is requested. The fundamental premise upon which the waiver request rests is that requirement for LEED certification for this building would be cost prohibitive for the project. Waterfront Maine nonetheless intends to strive to rehabilitate the building using best practices for achieving an energy efficient building which will comport with LEED Silver requirements (53 Points expected).

In connection with the waiver request, I have reviewed all materials submitted by your consultants. I have consulted with the City's team of LEED Certified individuals who have also reviewed your documents. The submissions demonstrate Waterfront Maine and its tenant will exercise good faith in employing as many energy and environmental design elements as possible, both during and after rehabilitation.

Based upon review of the submitted materials and the constraints placed on the rehabilitation design because of the historic character of the building, in addition to the fact that a TIF is being obtained to fund this important but costly project, compliance with LEED Certification will be cost prohibitive. Therefore, in accordance with Portland City Code Article VII. Green Building Code, Sec. 6-170. Waivers, a conditional waiver has been approved for this project subject to the following conditions:

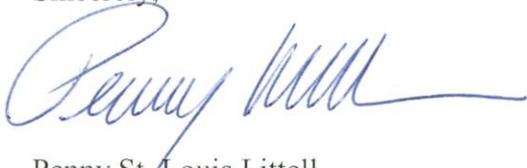
1. That the applicant shall provide a schedule of anticipated progress for the installation/rehabilitation of significant portions of the energy and sustainable components of the project to ensure that an inspector from the City can affirm that work is being installed as represented and that any issues are addressed cooperatively and timely; and

2. The applicant shall provide the energy modeling component of the project, the commissioning agent report, and the day lighting/view calculations as soon as they become available.

(Anticipated dates for obtaining these shall be noted on the timeline required in 1.

Thank you for your efforts to renovate the Cumberland Cold Storage Building and for retaining an important business within the City of Portland.

Sincerely,

A handwritten signature in blue ink, appearing to read "Penny St. Louis Littell", with a long horizontal flourish extending to the right.

Penny St. Louis Littell
Director of Planning and Urban Development

cc: Joseph E. Gray
Mayor Nicholas Mavodones and the Portland City Council
Steve Weatherhead, Winton Scott Architects, 5 Milk Street, Portland 04102