



**CITY OF PORTLAND**  
**OFFICE OF SUSTAINABLE DEVELOPMENT**  
**A BETTER FUTURE. A BETTER NOW.**

## **City of Portland Proposed High Performance Green Building Policy**

### **Questions and Answers:**

#### **About the Green Building Policy**

1. Why is the City creating a green building policy? Isn't Portland already a national leader in green building?
2. What are the benefits of the green building policy?
3. How does this proposed policy relate to the City's work developing a possible local amendment to the state building code? Are these policies redundant?
4. Why adopt new environmental regulations when the economy is facing such difficult challenges?
5. How does the policy affect new commercial construction?
6. Are commercial remodels covered?
7. How does the policy affect existing commercial construction?
8. How does the policy affect new home construction?
9. Are residential remodels covered?
10. How does the policy affect existing homes?
11. Does the policy apply to affordable housing?
12. What technical assistance is available?
13. Why link the policy to LEED and Earth Advantage?
14. In addition to LEED and Earth Advantage, did the City consider other green building standards for building performance requirements in Portland?
15. How does the proposed policy, especially for existing commercial buildings, relate to possible legislation in the 2009 Oregon session?

#### **About the Economy and Cost**

16. Is green building more expensive?
17. How does the policy impact the economy? Does it create jobs?
18. How will the rewards and the programs included in the policy be funded?
19. How will the City be able to afford the rewards if most new construction hits LEED Gold or LEED platinum?

#### **About the Environment and Health**

20. How does the policy affect the environment?
21. How do green buildings improve health and productivity?

DAN SALTZMAN, Commissioner    SUSAN ANDERSON, Director

P: 503-823-7222    F: 503-823-5311    721 NW 9th Ave., Suite 195, Portland, OR 97209-3447    [www.portlandonline.com/osd](http://www.portlandonline.com/osd)

AN EQUAL OPPORTUNITY EMPLOYER

PRINTED ON RECYCLED PAPER

TTY: 503-823-6868

## **About the Policy Development Process and Public Involvement**

22. What is the decision-making process?
23. When will the policy be implemented?
24. How can I comment on the draft policy?
25. How has the public been involved in the policy development process?
26. How will success be measured?

## **Other Inquiries**

27. What is green building?
28. Is the policy the only way Portland has encouraged green building?
29. Why is the City proposing to strengthen building policy when sectors like transportation contribute as much or more to global warming?
30. What other services and programs does OSD offer?

## Green Building Policy

### **1. Why is the City creating a green building policy? Isn't Portland already a national leader in green building?**

Global warming, 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 global warming pollution, 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 10 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.

Portland's design, development and construction professionals have indeed been national leaders in green building. Between 2000 and 2006, about 22 percent of all commercial building square footage received the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED) certification. Similarly, about 12 percent of single-family homes built in Portland in 2006 were certified by Earth Advantage as meeting the Energy Star Northwest standard. The resulting buildings are delivering financial savings to their occupants and owners while enhancing workplace productivity and improving personal health.

Unfortunately, however, green building practices are not yet standard practice in Portland. Moreover, many of the buildings that are achieving LEED certification are receiving relatively modest points for energy performance. With the increasing urgency of climate change and the vulnerability of our economy to rising energy prices, building performance must improve. To reach these environmental and economic goals, new policies and actions must be considered to accelerate the spread of high performance green building.

### **2. What are the benefits of the proposed High Performance Green Building Policy?**

The policy is designed to improve the quality of life for Portland residents and promote long-term economic growth and environmental protection. The Portland High Performance Green Building Policy provides incentives and resources to builders, developers, businesses and homeowners to help:

- Reduce total greenhouse gas emissions 80 percent by 2050.
- Add nearly 100 local living-wage jobs for every year the policy is in place.
- Provide significant energy costs savings to homeowners, renters, building owners and business tenants.
- Create healthy buildings for living, working and learning.
- Reduce stormwater runoff, water use and waste from building construction.

### **3. How does this proposed policy relate to the City's work developing a possible local amendment to the state building code? Are these policies redundant?**

The Bureau of Development Services is coordinating a process to develop a potential local amendment to the state building code. (Oregon has a statewide building code, and with limited exceptions local jurisdictions may neither allow less nor require more than the state code.) Since March 2008, a Technical Advisory Group has been meeting to identify specific recommendations for a potential local amendment. This process is likely to be complete in early 2009, and the State Building Codes Division will review the resulting proposal and either approve or reject it.

If adopted, the local building code would raise the floor for all construction in Portland: every building would need to meet or exceed it. The High Performance Building Policy seeks to provide incentives for building better performing buildings

#### **4. Why adopt new environmental regulations when the economy is facing such difficult challenges?**

By providing incentives to invest in buildings up front, rather than accept the long-term burden of paying for rising energy prices, green building can strengthen the local economy, adding jobs. An 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. This means that not adopting the policy results in a missed opportunity for job creation.

Portland is home to a rapidly growing cluster of clean energy and green building specialists. By creating more demand for these services locally, Portland firms will sharpen their expertise, positioning them to thrive as the world responds to climate change and rising energy prices.

#### **5. How does the policy affect new commercial construction?**

For **new commercial projects larger than 20,000 square feet and multifamily construction larger than 5,000 square feet**, the policy proposes a "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. Using LEED and Earth Advantage standards, construction will be evaluated through third-party verification of energy efficiency, site development, waste reduction, water conservation, sustainable material use and indoor air quality.

- Buildings that meet a high performance green building standard, including LEED Gold and Platinum, will receive a one-time green building reward payment from the City of Portland and be eligible for other incentives from the Energy Trust of Oregon and the Oregon Department of Energy.
- Buildings that meet a green building standard, such as LEED Silver, will qualify for a waiver from Portland's fee and be eligible for incentives from the Energy Trust of Oregon and the Oregon Department of Energy.
- Buildings that do not meet the green building standards will pay a one-time green building fee for the projected carbon pollution for operating that building for 15 to 30 years.
- Affordable housing projects that meet what otherwise is the "waiver" standard will receive a reward payment.

## **6. Are commercial remodels covered?**

Major remodels of existing buildings are also covered by the feebate. "Major remodels" are 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.

## **7. How does the policy affect existing commercial construction?**

For existing commercial buildings, the policy requires disclosure of building performance in the areas of energy usage, water usage, indoor air quality and stormwater management. For energy, water use and indoor air quality, buildings will report performance using the Energy Star Portfolio Manager program, a national effort to benchmark building performance. Disclosure is required of buildings larger than 100,000 square feet beginning in 2011, buildings larger than 50,000 square feet in 2012, and buildings larger than 20,000 square feet in 2013. Buildings smaller than 20,000 square feet are not required to report performance.

## **8. How does the policy affect new home construction?**

For new single-family residential construction, the policy requires a performance target for the percentage of new homes that are built to green building standards. If the industry target is met over the next three years, 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.

The policy proposes the following performance targets:

- In 2009, 20% of new homes certified as Earth Advantage or LEED for Homes.
- In 2010, 30% of new homes certified as Earth Advantage or LEED for Homes.
- In 2011, 40% of new homes certified as Earth Advantage or LEED for Homes.

## **9. Are residential remodels covered?**

No, home remodels and additions are not covered by the policy.

### **10. How does the policy affect existing homes?**

No requirements are proposed for existing homes at this time. Instead, OSD is developing options for a new large-scale clean energy investment fund to accelerate green building upgrades to existing buildings. More information about the fund is expected in 2009.

### **11. Does the policy apply to affordable housing?**

Yes. Affordable multifamily housing projects larger than 5,000 square feet are covered by the new commercial policy and are subject to the feebate. However, affordable housing projects will receive a reward payment by meeting what otherwise is the “waiver” level of performance.

The Portland Development Commission is in the process of revising its requirements for developers who receive PDC funding for affordable housing projects. PDC is proposing to require that projects that receive its funding meet at least the “waiver” level of the High Performance Green Building Policy, thereby ensuring that projects it funds also receive financial support through the City policy.

### **12. What technical assistance is available?**

To support implementation of the policy, the City will expand existing green building technical assistance programs and support new programs including:

- Green building specialists in the Development Services Center to assist permit applicants in meeting the policy goals.
- Training on LEED and Earth Advantage certification.
- Workshops to assist owners and managers of existing buildings with Energy Star Portfolio Manager reporting.
- Bureau of Environmental Services Clean River Rewards program assistance in registering for the stormwater discount incentive.

The City 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.

### **13. Why link the policy to LEED and Earth Advantage?**

LEED and Earth Advantage offer the credibility and verification of an independent third-party. Moreover, the State of Oregon’s Business Energy Tax Credit for Sustainable Buildings requires LEED certification, and buildings that qualify for a waiver or reward from the City of Portland will have much of the documentation required to receive a state tax credit. In many cases, the state tax credit covers much or all of the cost of certifying a building through LEED.

The policy requires projects to achieve specific points for energy and water performance that are otherwise optional under the LEED point system. These added specific requirements are to ensure that projects help respond to the local priorities of global warming, creating local jobs (by reducing energy use), and reducing summer water use.

[www.usgbc.org/leed/](http://www.usgbc.org/leed/)  
[www.earthadvantage.com/](http://www.earthadvantage.com/)

**14. In addition to LEED and Earth Advantage, did the City consider other green building standards for building performance requirements in Portland?**

The City reviewed a wide range of green building standards for consideration in the policy requirements. Like building codes, green building standards are revised periodically and updated to reflect the latest technologies and practices. As the state building code, LEED, Earth Advantage and other standards are revised, the City will continue to monitor which standards are appropriate for achieving its green building goals and will revise its policy accordingly.

**15. How does the proposed policy, especially for existing commercial buildings, relate to possible legislation in the 2009 Oregon session?**

Governor Kulongoski's climate change package for the 2009 Oregon legislature includes a proposal to require energy performance ratings for existing buildings and homes. For existing commercial buildings, this may function similarly to Portland's proposed green building policy. If the state proposals move forward, the City will evaluate the need to continue to have a similar local policy.

## **Economy and Cost**

**16. Is green building more expensive?**

Not in the long run. As a fuel-efficient car might cost slightly more upfront, it will save money on gas each time it is filled up. Similarly, Energy Star homes are 15 percent more efficient than those built to minimum code and the energy savings reduces monthly bills. In a new home, these savings amount to about \$400 each year. For commercial buildings, a 2006 Oregon Department of Transportation analysis of a new office building concluded that increased productivity and reduced energy bills would save taxpayers \$61 million over 20 years with a LEED Gold building compared to a code minimum building.

The initial investment pays back quickly in reduced energy, water and sewer costs, improved comfort and healthier air quality. Buyers and renters are increasingly making decisions on energy efficient features and design, and this demand will only increase in coming years, as energy prices rise.

Regional public and private sector experience shows that the incremental costs associated with LEED certification range from cost neutral to two percent of construction costs and almost always decrease with experience. The latest and most comprehensive green building research affirms that incremental costs to achieve LEED are minimal compared to long term utility savings, employee productivity gains, and environmental performance. A study commissioned by California's Sustainable Building Task Force that looked at the life cycle costs of 33 green buildings concluded that, "a minimal up-front investment of about two percent of construction costs typically yields life cycle savings of over ten times the initial investment." More specifically, the study determined that the requisite incremental investment to achieve a Silver and Gold rating was 2.15 percent and 0.5

percent respectively, suggesting that LEED Gold is actually less expensive than Silver and nearly cost neutral with standard construction.

A Seattle study that looked at the benefits and costs of achieving LEED Silver in two City-owned buildings found that the average LEED-related incremental cost was 1.2 percent and the benefit cost-ratio was approximately 1.5. The City of Vancouver, BC commissioned a LEED audit study that evaluated the cost to bring six existing multi-family buildings up to LEED Certified and Silver levels of certification. The results indicate that the average cost increment to achieve these levels was 1.14 percent and 1.2 percent respectively.<sup>2</sup>

<sup>2</sup> LEED Audit Report for South East False Creek Project, City of Vancouver, January 2003.

### **17. How does the policy impact the economy? Does it create jobs?**

The policy would help create new, local jobs and a pool of highly skilled local green building designers, consultants, engineers and building performance raters ready to win contracts across North America. Many new green condo projects in Los Angeles were designed and engineered by Portland firms because Portland's early and strong green building efforts created demand for our experienced green building experts. We need to encourage similar demand in Portland.

Green buildings also create jobs in other parts of the economy. By reducing energy consumption and allowing building owners to spend less on energy, more dollars become available for spending on other goods and services, keeping dollars circulating in the local economy and creating local jobs. An ECONorthwest analysis of the High Performance Green Building Policy found that the mid-range scenario would result in a net addition of 100 jobs in Oregon for every year the policy was in place, with more than 90 of those jobs in Multnomah County.

### **18. How will the rewards and the programs included in the policy be funded?**

Fees collected by the City of Portland will create self-sustaining funds to pay for green building rewards, technical assistance, project recognition, and education programs. The green building funds may also support green affordable housing grants and additional financial or technical assistance with the permitting processes.

### **19. How will the City be able to afford the rewards if most new construction hits LEED Gold or LEED platinum?**

Based on recent construction trends in Portland, the City anticipates that a significant percentage of building square footage will achieve the "waiver" level of performance, but a relatively small share will receive reward payments. If the policy is successful, more buildings will indeed achieve the higher performance levels, and City staff will carefully monitor the levels of fees collected versus rewards paid to ensure that the policy is effective, while keeping the green building funds solvent.

## Environment and Health

### **20. How will the policy affect the environment?**

The green building policy would reduce global warming pollution from buildings and decrease associated energy use as well as stormwater runoff, water consumption and solid waste.

The proposed policy is estimated to reduce greenhouse gas emissions from new buildings by four to 12 percent, depending on the market response to the new policy. Since buildings are responsible for almost half of Portland's carbon dioxide emissions, and decisions made when buildings are first constructed have a strong impact on their energy use over their entire life, this is a meaningful, if moderate step.

By requiring disclosure of energy, water, and stormwater management performance for existing commercial buildings, the policy is intended to motivate building owners to improve the performance of their buildings. Many existing buildings can improve management of stormwater on site—and, with the Clean River Rewards program, receive a discount on their stormwater bill for doing so.

### **21. How do green buildings improve health and productivity?**

Because most people spend more than 90 percent of their time indoors, the environmental quality of building materials and ventilation are key elements to creating healthy homes and workplaces. Asthma and other health issues related to indoor air quality have also become major health concerns at home. Respiratory disease has increased nearly 50 percent in the last decade. Many building materials can have an adverse effect on indoor air quality: paints, laminates, floor finishes, cabinets, particleboard, and certain structurally engineered building systems off gas and contain carcinogens found in some volatile organic compounds.

Green buildings have better air quality, release fewer toxics and improve the health of residents and workers. Research shows that children in green schools perform better on tests and workers in green buildings are sick less frequently and have higher morale.

## Policy Development Process and Public Involvement

### **22. What is the decision-making process?**

The Office of Sustainable Development is currently seeking additional public comment on the proposed green building policy prior to City Council consideration in early 2009. If City Council adopts the policy, the different components will be phased in, as described below. The soonest any new requirement takes effect is July 1, 2010.

### **23. When will the policy be implemented?**

For new commercial and multifamily construction, the policy will be phased in, starting with smaller projects, as follows:

- 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.

For new home construction, the policy will only take effect if the home-building industry in aggregate does not achieve a target percentage of homes that meet green standards in each of the next three years. If the target is not met in any given calendar year, a feebate similar to that for new commercial construction will take effect the following July 1.

For existing commercial buildings, the policy will be phased in, starting with larger buildings:

- By January 1, 2011 for projects greater than 100,000 square feet.
- By January 1, 2012 for projects between 50,000 and 100,000 square feet.
- By January 1, 2013 for project greater than 20,000 and less than 50,000 square feet.

#### **24. How can I comment on the draft policy?**

OSD is seeking public comment on the draft policy prior to January 20, 2009. Comments will be compiled for City Council as they consider the policy for adoption later in 2009. You can comment on the policy in a variety of ways:

- Go to [www.portlandonline.com/osd/gbpolicy](http://www.portlandonline.com/osd/gbpolicy)
- Email: [gbpolicy@ci.portland.or.us](mailto:gbpolicy@ci.portland.or.us)
- Mail: 721 NW 9<sup>th</sup> Ave., Suite 195, Portland, OR 97209
- Attend a public meeting. Time and date are listed at the Web site above.

#### **25. How has the public been involved in the policy development process?**

The High-Performance Green Building Policy has been in development for the past year, incorporating extensive stakeholder input from the building industry. The stakeholder process resulted in a wide range of valuable input, both technical and general. Key themes included:

- Focus on green building, not just energy.
- Ensure affordability.
- Consider the larger economic impacts of the policy.
- Align the policy with existing programs and incentives.
- Take a phased approach, have a clear roadmap for where policy is going over time, and give the market time to prepare and respond.
- Focus on major opportunities, and don't unnecessarily burden small buildings.

#### **26. How will success be measured?**

The Office of Sustainable Development will review data on trends in building construction and green building certification and report annually on the percent of projects and square footage that achieved the performance levels of the green building policy. Similarly, OSD will report on compliance with the existing buildings requirement.

The full policy will be reviewed after three years, when building codes are in the process of being updated, to evaluate its effect and any recommended changes.

## Other Inquiries

### **27. What is green building?**

The term “green building” (often used interchangeably with sustainable, high performance, healthy, low impact) refers to buildings and their sites that are designed and constructed to increase environmental performance and protect human health.

Green buildings:

- Consider the true costs of building and site impacts on the local, regional, and global environment through lifecycle costing and assessment.
- Use natural resources efficiently, maximize the use of local materials, and reduce waste.
- Conserve and reuse water and treating stormwater runoff on-site.
- Use energy-efficient systems and products.
- Reduce building footprints, allowing ecosystems to function more naturally.
- Optimize climatic conditions through site orientation and design.
- Integrate natural daylight and ventilation and improving indoor air quality.
- Encourage transit, bicycle, and pedestrian activities.
- Minimize the use of mined rare metals and persistent synthetic compounds.
- Reduce, reuse, and recycle materials in all phases of construction and deconstruction.
- Include advanced telecommunications technology, allowing greater electronic access, and reducing the need to travel.
- Are designed for future flexibility, expansion, and building demolition.

### **28. Is the policy the only way Portland has encouraged green building?**

OSD has provided technical assistance on green building since 2000. In 2001, the City of Portland adopted a green building policy for its own facilities. This required all new construction and major renovation projects to meet the U.S. Green Building Council’s LEED Silver standard. In 2005, the requirement was raised to LEED Gold. Additionally, private-sector projects that receive PDC funding were required to meet LEED Silver.

In March 2007, City Council directed OSD to develop options for improving building performance across the city. In November 2007, Council adopted a goal of reducing emissions of carbon dioxide, the primary cause of global warming, by 80% by 2050.

### **29. Why is the City focusing on its building policies when sectors like transportation contribute as much to global warming?**

Both transportation and buildings are essential components of a successful response to global warming. Portland has pursued innovative transportation policies for years, from the transit mall to pedestrian and bicycling infrastructure to the streetcar. Improvements in building performance have been steady, through routine updates to building codes and growing innovation among private and public-sector building projects.

In neither area has the response been sufficient to meet the challenge of global warming and rising energy prices. The City of Portland and Multnomah County are currently in the process of

developing a revised climate-protection strategy that strives to put the city and county on a path to reducing greenhouse gas emissions 80 percent by 2050. The strategy will include significant efforts to accelerate improvements in both transportation and buildings as well as in electricity generation, waste reduction, recycling, urban forestry and food.

The proposed green building policy is a key component of the larger climate-protection strategy, but it will be matched by equally ambitious efforts in all sectors.

### **30. What other services and programs does OSD offer?**

Founded in 2000, the City of Portland Office of Sustainable Development (OSD) brings together community partners to promote a healthy and prosperous future for Portland. Through outreach, technical assistance, policy and research, OSD promotes informed choices to:

- Increase the use of renewable energy and resources.
- Reduce solid waste and conserve energy and natural resources.
- Prevent pollution and improve personal and community health.

Please visit [www.portlandonline.com/osd](http://www.portlandonline.com/osd) for more information.