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

CITY OF PORTLAND GREEN BUILDING POLICY UPDATE FAQ

What are the key elements of the Green Building Policy update?

- **A commitment to City-owned LEED certified facilities:** The City of Portland is "walking its talk" to transform the marketplace for green building practices by increasing its LEED NC (New Construction) threshold for all new facilities projects from "Certified" to "Gold." In addition, major retrofits and existing occupied buildings will achieve LEED EB (Existing Buildings) "Silver;" tenant improvements and leased facilities will achieve LEED CI (Commercial Interiors) "Silver" and/or G/Rated Tenant Improvement Guide certification; and ecoroofs and Energy Star rated roofing will be installed when practical.
- **Facilitated permitting:** The City will provide special technical assistance through the Bureau of Development Service's "Process Management" program for all qualified public and private sector LEED Silver-registered development projects.
- **The Green Investment Fund:** A $500,000/yr. grant program has been established to support innovative building practices in the private sector. The program is funded by the City's Office of Sustainable Development, Bureau of Environmental Services, and Water Bureau and Energy Trust of Oregon.
- **PDC-funded private sector projects:** Portland Development Commission (PDC) will increase LEED NC standards from "Certified" to "Silver" for all private-sector development over 10,000 square feet that receive financial assistance from PDC and other public agencies (including value of fee or tax waivers) totaling over $200,000 or 10% of the total project costs.
- **Public infrastructure:** The construction and maintenance of public infrastructure (utilities, streets, etc) will incorporate green "best practices" established by the Water Bureau, Bureau of Environmental Services, Portland Office of Transportation and Office of Sustainable Development.

Why is the City implementing this policy now?

- **Leadership:** This new package of requirements and incentives keeps Portland at the forefront of the green building movement. Portland has been known as a leader since the implementation of our first green building policy and establishment of the Office of Sustainable Development's G/Rated program in 2001.
- **Market transformation:** Since the Policy was passed, green building market transformation has significantly quickened. As of April 2005 in Portland, 49 buildings are LEED registered (7 are currently certified). The Policy addresses the changing landscape of green building, adopting new products like LEED EB and increased professional capacity that make LEED Gold certification cost effective.
- **Policy gaps**: The updated Policy addresses gaps that the first Policy didn't tackle, such as standards for the City's portfolio of existing buildings, facilitated permitting, and staff training.
- **Job creation:** The updated Policy is an important economic development strategy for the City. Since the first policy was adopted, there has been significant growth in green building expertise – including

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builders, architects, engineers, systems and materials manufacturers, energy and environmental consultants, suppliers of reusable building materials, and landscape architects. The updated Policy provides a framework for such companies to thrive and grow – requiring the City and encouraging private developers to purchase environmentally friendly products and hire qualified firms – and helps to bring costs down that fuel further demand for innovative building materials, energy systems, and other green building components. Portland is becoming known internationally as a hub for companies with expertise and interest in green building and as a magnet for skilled workers who value our commitment to environmental responsibility.

- **Environmental protection:** Despite Portland's reputation as a "green" city, local watershed health, air quality, and natural resources continue to be threatened**.** Willamette River steelhead trout and other species are listed as a threatened species by the Endangered Species Act (ESA); Portland's harbor is designated a Superfund site; and 213 miles of streams/rivers in Portland metro area don't meet DEQ water quality standards. A recent DEQ study of Portland revealed that airborne particulates are 790 times the national ambient air quality standards. While many local and global environmental indicators continue to worsen, green buildings are proving to be an effective "upstream" strategy to reduce such impacts and reduce long-term community costs. Green building "best practices" minimize site disturbance and erosion, manage storm water on-site, encourage alternative transportation, use materials and products efficiently, increase energy and water efficiency, and protect human health.

Why link the Policy to LEED?

- **Market acceptance:** Leadership in Energy and Environmental Design (LEED), a green building rating system developed by the U.S. Green Building Council has become the most widely used tool in the U.S. to help design and evaluate the environmental performance of a building. Nationally, more than four percent of US commercial buildings (including more than ten percent of new government buildings) are LEED registered. The US Green Building Council (USGBC) has certified 167 buildings and registered 1,800 more projects worldwide.
- **Governments "LEEDing" the way:** Dozens of cities, counties, state and federal agencies have adopted LEED-based green building requirements in the last three years to address the negative impacts of buildings on human health, the environment, and global atmosphere and perceived efficacy in delivering market differentiated energy and resource efficient buildings. Local governments that have adopted the LEED Silver standard for municipal projects include Alameda County, CA, Arlington, MA, Atlanta, GA, Berkeley, CA, Boulder, CO, Calgary, BC, Dallas, TX, Houston, TX, Kansas City, MO, San Diego, CA, San Francisco, CA, Santa Monica, CA, and Seattle, WA[1]. The City's of Vancouver, BC, and Scottsdale, AZ have adopted the LEED Gold standard for City-owned facilities. Canada recently passed a LEED Gold equivalent standard for all new projects as an important component of Canada's multi-sector approach to meet the Kyoto Protocol.
- **Flexibility**: With different products and dozens of credits, project teams "picks and choose" strategies based on project type, occupancy, key environmental performance goals. In addition to LEED NC (New Construction) that was launched in 1999, the USGBC has introduced two new LEED products - LEED EB (Existing Buildings) and LEED-CI (Commercial Interiors) in the last year and has three in pilot phase – LEED (CS (Core & Shell), LEED ND (Neighborhoods), and LEED H (Homes).
- **Third Party Verification**: LEED also offers the benefit of third party verification – ensuring that a building meets its environmental targets and is designed to the owner's expectations. In short, the LEED rating is a quality stamp of approval helping distinguish certified projects in the marketplace.

[1] LEED Users Summary Government Sector. Templeton, Peter. USGBC. March 2005.

Does the Policy impact the City's budget?
The Green Building Policy is designed to provide long term economic benefits to the City through the design and construction of more durable, healthier, and more operationally efficient facilities. There are incremental "first or upfront costs" associated with LEED certified green buildings for additional design, energy modeling, building commissioning and more rigorous project tracking for certification. Regional public and private sector experience shows that the incremental costs associated with LEED certification range from cost neutral to 2% of construction costs and almost always decrease with experience. The state of Oregon, Energy Trust of Oregon, and Northwest Energy Efficiency Alliance offer financial incentives to offset many of these first costs.

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% and .5% respectively- suggesting that LEED Gold is actually less expensive than Silver and nearly cost neutral with standard construction. For example, the City of Seattle's latest project will be LEED Gold certified and is $180,000 under budget.

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% 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% and 1.2% respectively.[2]

Does the updated Policy impact affordable housing?
Yes. OSD and PDC have partnered to update the City's "Greening Portland's Affordable Housing" threshold (required) and voluntary guidelines for all affordable housing projects funded by the City. The new guide will include cost effective new strategies for high-rise buildings and integrated design, incorporate the findings of PDC's energy study, and include expanded resources and training for area affordable housing providers. In addition, PDC is proposing that new affordable housing projects over three stories will be required to achieve LEED "Silver" certification. Other partners in developing the new guidelines include REACH CDC, Housing Development Center, Enterprise Foundation, PGE Earth Advantage, NW Natural Gas, Energy Trust of Oregon, Housing Authority of Portland, Oregon Housing and Community Services, and area private architects and developers.

What is facilitated permit review?
The City's Bureau of Development Services (BDS) issues and manages all building and planning code permits for building and site improvements in Portland. Facilitated permitting will provide special technical assistance through the Bureau of Development Service's "Process Management" program for all qualified public and private sector LEED Silver-registered development projects. Projects will be tagged from the beginning of their design review, enabling them to move through the review process more quickly with additional staff support.

While Portland has been successful in working with the development community to embrace and implement green building practices, market transformation continues at a slow pace. Many developers

[2] LEED Audit Report for South East False Creek Project, City of Vancouver, January 2003.

remain unfamiliar with nascent green building technologies and practices, others do not understand the value of it, and some are wary of integrating new strategies that may challenge zoning or building codes. This program should encourage more developers to pursue LEED certification. Other elements of the facilitated permitting effort include:

- Identifying building and zoning code improvements to facilitate green building
- Identifying green building training needs of City development review and field staff
- Developing strategies to market the City's green building services at the Development Services Center

What are the first projects affected by the updated Policy?
The City of Portland has two upcoming projects that will be affected by the Policy:
- Fire Station One: a new downtown fires station and Fire Bureau administrative headquarters to be located in Old Town/Chinatown. A design competition is underway to choose the design team.
- University Park: The Parks Bureau is in final design for a major overhaul of the University Park community Center in North Portland.

GENERAL GREEN BUILDING FAQ

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

What are the benefits of green buildings?
Green building provides the framework and tools to build in an economically advantageous manner while conserving natural resources and minimizing the ecological degradation from the built environment. Green building practices deliver several benefits to Portland residents and businesses, including:

- Providing long-term financial savings for building owners and occupants;
- Saving energy and natural resources;
- Helping the City meet its goals to reduce global warming;
- Reducing the use of toxic materials;

- Enhancing the quality of indoor environments, where people spend upwards of 80 percent of their time.
- Minimizing site impacts by protecting and enhancing natural spaces; and
- Minimizing damaging storm water runoff and construction-related erosion.

In addition, green building expertise and technologies are central elements in an emerging environmental industry sector and provide the opportunity to strengthen and diversify Portland's economy. By promoting and applying green building practices, the City can help stimulate economic growth and build demand for innovative and efficient building materials, energy systems, and related services provided by local firms.

Why is the City involved in promoting green building?
Before OSD created G/Rated in 2000, we asked the public to define the City's role in green building. The community responded by outlining the following priorities:
- Provide quality education in green building practices
- Organize events for Portlanders to visit and experience green buildings first-hand
- Provide technical assistance to those getting started in green building
- Help green projects with permitting issues
- Help City agencies green their construction projects
- Provide seed grants to promote green building in the City
- Connect people with green building resources, like suppliers and services

Buildings are an important piece of the sustainability puzzle because they consume a large amount of natural resources and humans spend upwards of 90% of their time in them. By providing both general and technical information about green building practices, G/Rated is helping accelerate the adoption of green building practices as the industry standard.

How is G/Rated funded?
The G/Rated program is funded through residential and commercial solid waste fees, grants and contracts. Sponsorships and tuition pay for additional programs and events, such as the annual Build It Green! Residential home tour and Information Fair and ReThink professional training series.

What services does G/Rated offer?
G/Rated is Portland's gateway to green building, offering initial consultation specific to your green building project. We offer green building strategy and direction on a host of green building issues including permitting, energy and water efficient systems, healthy indoor air quality, recycling, reuse, sustainable material choices, and more. Our initial consultation provides practical ideas, professional recommendations and directions to locally available products and services.

What is the Green Investment Fund?
The Green Investment Fund, created by Portland City Commissioner Dan Saltzman and managed by OSD, is a $2.5 million, 5year competitive grants program designed to spur innovation in green building technologies and practices. The GIF is funded through an innovative public-private partnership that includes the Energy Trust of Oregon, the City of Portland's Bureau of Environmental Services, Water Bureau and Office of Sustainable Development. Portland is the only US city to offer ongoing financial incentives for development that employs cutting-edge techniques for reducing resource and energy use in construction and renovation projects.

Do buildings affect natural resources?
Absolutely! For example, a standard wood-frame home requires more than one acre of forest, and the waste created during construction averages between 3-7 tons. In 1998, The National Association of Home Builders reported that a 2,085-square foot, single-family house requires 13,127 board feet of lumber; 6,212 square feet of sheathing; 14 tons of concrete; 2,325 square feet of exterior siding; 3,100 square feet of roofing material; 3,061 square feet of insulation; 6,144 square feet of interior wall material; 120 linear feet of ducting; 15 windows; 13 kitchen cabinets and 2 other cabinets; 1 kitchen sink; 12 interior doors; 7 closet doors; 2 exterior doors; 1 patio door; 2 garage doors; 1 fireplace; 3 toilets; 2 bathtubs; 1 shower stall; 3 bathroom sinks; 2,085 square feet of flooring material . . . and 68 gallons of paint and coatings.

In addition, the majority of new development in the region is on "greenfields" – land not previously built on. Such practices threaten farmlands, fragment the landscape, reduce wildlife and fish habitat, and alter site hydrology. Meanwhile, the majority of existing abandoned and degraded sites within the City – lands most suitable for new development – are much slower to redevelop.

Do buildings affect global warming?
Yes. The construction and operation of buildings together use one-third of all energy consumed in the United States. Buildings are a major source of urban air quality problems and the pollutants cause climate change. For example, buildings emit sulfur dioxide, nitrous oxide and particulate emissions, all of which damage urban air quality. Energy use in Portland buildings produces 40% of carbon dioxide emissions, a primary contributor to global warming.

What effect do green buildings have on health and productivity?
Numerous studies link how employees perform at work to how the building itself performs. Eight case studies show worker productivity increases between 6-15% in structures built to maximize daylighting, natural ventilation, and indoor air quality through reduced use of toxic materials (e.g., paints, materials, and laminates low in volatile organic compounds).1 Adverse health risks and missed work have direct economic impacts. Since a typical employer spends almost 70 times more on salaries than on energy, the productivity advantages of green buildings can have substantial financial benefits to those who manage the building.

Asthma and other health issues related to indoor air quality have also become major health concerns at home. Respiratory disease has increased nearly 50% 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. Because most people spend more than 90% of their time indoors, the environmental quality of building materials and ventilation are key elements to creating healthy homes and workplaces.