BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF ACCEPTING A GREEN BUILDING POLICY FOR METRO FACILITIES AND OPERATIONS AND AUTHORIZING THE CHIEF OPERATING OFFICER TO IMPLEMENT THE POLICY	)))))	RESOLUTION NO. 11-4294 Introduced by Acting Chief Operating Officer Daniel B. Cooper, with the concurrence of council president Tom Hughes

WHEREAS, the Metro facility portfolio includes a diverse array of buildings, including solid waste facilities, public venues, theaters, a zoo, park facilities and an office building;

WHEREAS, operating these buildings results in environmental impacts associated with providing public services, including the following impacts in the 2008 baseline year:

- 26,177 metric tons of greenhouse gas emissions (45% of the emissions from Metro operations)
- 2,600 tons of waste
- 2,100 chemical products with a high toxicity rating for health, environment, or physical toxicity
- 285 million gallons of water
- 110 acres of impervious surfaces

WHEREAS, in 2010 Metro Council adopted Resolution No. 10-4198, "For the Purpose of Adopting Metro's Sustainability Plan and Authorizing the Metro Chief Operating Officer to Implement the Plan," which provides a framework for the strategies and actions needed to address Metro's five environmental sustainability goal areas of greenhouse gas emissions, toxics, waste, water and habitat;

WHEREAS, development of a green building policy for new construction, major renovations and operation and maintenance of existing buildings owned and operated by Metro was identified as a high priority action in the Sustainability Plan to be implemented within the first year after plan adoption;

WHEREAS, green building techniques are recognized as best practices for operating efficiently and realizing high performance from public facilities; now therefore

BE IT RESOLVED that the Metro Council hereby accepts Metro's Green Building Policy for Metro Facilities and Operations and authorizes the Metro Chief Operating Officer to implement the policy, including any updates to the policy that the Chief Operating Officer deems necessary.

ADOPTED by the Metro Council this _____ day of October, 2011.

_____
Tom Hughes, Council President

Approved as to Form:

_____
Alison Kean Campbell, Acting Metro Attorney

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 11-4294, FOR THE PURPOSE OF ACCEPTING A GREEN BUILDING POLICY FOR METRO FACILITIES AND OPERATIONS AND AUTHORIZING THE CHIEF OPERATING OFFICER TO IMPLEMENT THE POLICY

Date: October 3, 2011

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BACKGROUND

In 2010 Metro Council adopted Resolution No. 10-4198 which adopted the Metro Sustainability Plan for internal and business operations. This plan identifies and guides the practices and projects needed to improve the sustainability of Metro's operations and address the five environmental sustainability goal areas of greenhouse gas emissions, toxics, waste, water and habitat.

One of the high-priority actions identified in the plan was Sustainability Management action 4.2, "Adopt a Metro-wide green building policy to set standards based in the LEED standard for new construction and operations of existing buildings. Include sustainable site management standards for Metro's developed parks and green spaces." The proposed Green Building Policy addresses the first portion of this action. The scope of the proposed policy is for new construction, major renovation and operations and maintenance of existing facilities owned and operated by Metro.

Metro's building portfolio is varied and unique. The operations include large public event venues, theaters, the zoo, solid waste facilities, park facilities and one office building. Because of this diverse portfolio, this policy was designed with flexibility in terms of building size and building type.

The policy will clarify expectations for how new buildings are built or renovated, and have the added benefit of integrating green building standards very early into the design process so as to have the least cost impact.

ANALYSIS/INFORMATION

1. **Known Opposition**
   None.

2. **Legal Antecedents**
   Metro Council Resolution 10-4198, "For the Purpose of Adopting Metro's Sustainability Plan and Authorizing the Metro Chief Operating Officer to Implement the Plan.

3. **Anticipated Effects**
   With this resolution, Metro formally adopts the Green Building Policy for buildings owned and operated by Metro. Departments will need to integrate the standards into design specifications for new and renovated buildings, as well as into operations of existing buildings.

4. **Budget Impacts**
   The costs to implement this policy will vary from project to project. In many instances, green building standards can be achieved with little to no additional cost over conventional new building construction. In other cases, there could be an additional up-front investment required. In most cases, integrating green building practices into new buildings and into maintenance of existing buildings can reduce operating costs over time from savings on utilities such as energy and water. Projects will be

evaluated using prioritization criteria established in the Sustainability Plan, which includes but is not limited to return on investment.

RECOMMENDED ACTION

The Chief Operating Officer recommends that the Metro Council accept the Green Building Policy by adopting the attached resolution.

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Section 1. Purpose and goals

1.1. The purpose of the Metro Green Building Policy is to set standards for construction, operations and maintenance of Metro buildings and developed properties that support achievement of Metro's five Sustainability goals.

1.2. This policy applies to all buildings owned and/or operated by Metro, including visitor venues.

1.2.1. Buildings are defined as "enclosed structures that are regularly occupied by people and contain conditioned space (heated or cooled)."

1.2.2. Solid waste transfer stations are included in the policy, though they do not contain conditioned space. Opportunities for applying green building methods or standards for solid waste transfer station construction or renovation projects shall be evaluated on a project-by-project basis.

1.2.3. Residential buildings (houses) located on Metro natural area properties are specifically excluded from this policy.

1.2.4. Exceptions to this policy shall be considered by the Metro Chief Operating Officer (COO) with written input from the Sustainability Steering Committee, Sustainability Program and department directors.

1.3. The Metro Council adopted the Sustainability Plan for Internal and Business Operations (Plan) through Resolution 10-4198 in October 2010.[1] Sustainability Management Action 4.2 of the Sustainability Plan directs Metro to adopt an agency-wide green building policy to set standards for new construction and operations of existing buildings based on the Leadership in Energy and Environmental Design (LEED) standard.

1.4. The Plan also directs Metro to adopt sustainable site retrofit, development and management practices and standards for Metro's developed properties and parks, which will be addressed in a separate policy. Options for sustainable site standards include Salmon Safe certification or the Sustainable Sites Initiative.[2]

1.5. The Plan outlines environmental goals for internal operations, which the Metro Council adopted through Resolution 03-3338 in May 2003.[3] This Green Building Policy supports implementation of building construction and maintenance practices that support achievement of the following five goals.

a. Reduce direct and indirect greenhouse gas emissions, measured in carbon dioxide equivalent (CO_2e), 80 percent below 2008 levels by 2050.
b. Eliminate the use or emissions of persistent bioaccumulative toxics (PBTs) and other priority toxic and hazardous substances by 2025.

[1] Metro Council Resolution 03-3338, "For the Purpose of Directing the Metro Chief Operating Officer to Establish a Sustainable Business Model for Metro Departments and Facilities and Undertake Related Duties," 2003. http://rim.oregonmetro.gov/webdrawer/rec/20828/.

[2] Salmon Safe is an independent 501(c)3 nonprofit focused on transformation of land management practices so Pacific salmon can thrive in West Coast watersheds. The Sustainable Sites Initiative™ (SITES™) is an interdisciplinary effort by the American Society of Landscape Architects, the Lady Bird Johnson Wildflower Center at The University of Texas at Austin and the United States Botanic Garden to create voluntary national guidelines and performance benchmarks for sustainable land design, construction and maintenance practices.

c. Recover all waste for recycling or composting, and reduce overall generation of waste by 2025.
d. Reduce water use 50 percent below 2008 levels by 2025.
e. Metro's parks, trails and developed properties will positively contribute to healthy, functioning urban ecosystems and watershed health. Metro's natural areas are healthy, functioning ecosystems.

Section 2. Approach

2.1. The buildings in the Metro portfolio are highly varied and distinct from each other. Metro's buildings range from large-scale venues (Portland Center for the Performing Arts theaters, Convention Center, Expo Center) to a campus of many buildings and exhibits (Oregon Zoo) to solid waste processing buildings (Metro Central and South transfer stations) to office buildings (Metro Regional Center) to park buildings (Blue Lake Park, Oxbow Park).

2.2. This policy includes different standards for different building sizes and types in order to support the various needs and unique operations of these buildings as well as Metro's environmental sustainability goals.

Section 3. Green building standards for new construction and major renovations

3.1. The following green building standards shall apply to newly-constructed Metro buildings as well as all major renovations to buildings Metro owns and operates.

3.2. Newly constructed buildings and major renovations of buildings <u>over 70,000 square feet</u> shall be built to the <u>LEED Rating System for New Construction and Major Renovations (LEED-NC) certification at the Gold level or higher and certified by the Green Building Certification Institute</u>. The most recent version of the LEED standard will be followed.

3.2.1. In meeting this standard, <u>the following LEED-NC credits are required</u> to be incorporated into each project. Metro selected the following credits due to their alignment with Metro's environmental sustainability goals for internal operations.

a. Energy & Atmosphere credit 1, Optimize Energy Performance: Achieve at least 30% savings for New Construction; 26% for Major Renovation compared with the baseline building performance rating for that building type
b. Water Efficiency credit 1, Water efficient Landscaping: Reduce by 50%
c. Water Efficiency credit 3, Water Use Reduction: Achieve at least 30% savings
d. Materials and Resources credit 2: Divert a minimum of 85% of all construction and demolition (C&D) waste to recycling and reuse markets (this is 10% more recovery than necessary to achieve two points in the LEED rating system)
e. Indoor Environmental Quality credits 4.1 - 4.4, Low Emitting Materials: Adhesives & Sealants, Paints & Coatings, Flooring Systems, and Composite Wood & Agrifiber Products
f. Sustainable Sites credit 6.1: Stormwater Design, Quality Control
g. Sustainable Sites credit 7.2: Heat Island Effect – Roof
h. Sustainable Sites credit 8: Light Pollution Reduction

3.2.2. <u>The following credits</u> (which closely align with Metro's sustainability goals) <u>are preferred,</u> but not required, for LEED-NC projects as applicable to each project and site. These credits align with Metro's environmental sustainability goals for internal operations.

a. Energy & Atmosphere credit 3: Enhanced Commissioning
b. Energy & Atmosphere credit 4: Enhanced Refrigerant Management
c. Water Efficiency credit 3: Water Use Reduction
d. Materials and Resources credit 3: Materials Reuse
e. Materials and Resources credit 4: Recycled Content Materials
f. Materials and Resources credit 5: Regional Materials
g. Materials and Resources credit 7: Certified Wood
h. Sustainable Sites credit 5.1: Protect or Restore Habitat
i. Sustainable Sites credit 6.2: Stormwater Design
j. Sustainable Sites credit 7.1: Heat Island Effect – Non-Roof

3.3. Newly constructed facilities and major renovations between 5,000 and 70,000 square feet shall be built to the Earth Advantage Commercial standard at the Gold level or higher and certified by the Earth Advantage Institute. LEED-NC at the Gold certification level is still an option, but not required. When pursuing Earth Advantage Commercial certification at the gold level, the following measures shall be incorporated into each project. These measures align with Metro's environmental sustainability goals for internal operations.

a. Health Option 4: Sustainable Housekeeping
b. Materials Option 4: Sustainable Timber 35%
c. Materials Option 7: Organic Waste Collection or Compost Facilities
d. Land Option 1: Heat Island: Roofs

3.4. Newly constructed buildings and major renovations under 5,000 square feet do not require certification by either of the aforementioned standards. However, the buildings are required to meet performance targets in the five Sustainability goal areas of greenhouse gas emissions (including building energy), waste, toxics, water and habitat.

3.5. Newly constructed buildings and exhibits in the Oregon Zoo Bond construction program shall meet the previously adopted green building target of LEED-NC certification at the Silver level or better for the elephant, primates and polar bear exhibits and the Conservation Discovery Zone education building.

3.5.1. If the Zoo determines that LEED-NC Silver certification is not applicable for any of the projects identified in section 4.8, then the standards in the Metro Green Building Policy would apply instead.

3.6. All new construction and major renovation projects shall meet the following additional requirements:

3.6.1. Project planning: All new construction and major renovation projects shall incorporate resources needed to comply with the requirements of this policy in the project budget, starting with the initial design phase. Resources shall include staff time necessary to complete documentation requirements for the green building standard applicable to the building. Integrated design practices should be utilized early in the design process.

3.6.2. Solar: New buildings that meet the criteria outlined by the State of Oregon in the "1.5% for Solar Energy in Public Building Construction Contracts" rule are required "to spend an amount equal to at least 1.5 percent of the total contract price of a public improvement

contract for the construction or major renovation of a public building for the inclusion of appropriate solar energy technology in the building."[4]

3.6.3. Roofs: The following requirements intend to minimize the urban heat island effect, enhance urban habitats for wildlife, and reduce stormwater runoff. New buildings shall be designed and constructed to include an ecoroof with at least 70% coverage of the total roof area and solar reflectance index,[5] Energy Star-rated roof material on any remaining non-ecoroof surface area OR Energy Star-rated roof material when an integrated ecoroof/Energy Star-rated roof is deemed impractical by an engineering analysis of major renovation projects. If an Ecoroof is deemed unfeasible from an engineering and design perspective, project managers shall propose an alternative method of treating stormwater runoff from the roof surface (e.g. Bioswale).

The total roof area excludes skylights, equipment, solar energy panels and appurtenances.

Section 4. Standards for Operations and Maintenance of Existing Buildings

4.1. Metro facility operations managers shall assess existing buildings over 50,000 square feet for eligibility to apply for the LEED Rating System for Existing Buildings: Operations & Maintenance (LEED-EB+OM) certification at the Silver level or higher. LEED-EB+OM certification at the Silver level or higher is required if a building meets eligibility criteria and other prioritization criteria selected by Metro. The most recent version of the LEED standard for existing buildings shall be followed.

4.1.1. Metro facility operations managers shall complete assessment of buildings for LEED-EB+OM certification eligibility within two years of policy adoption. A sample assessment tool is provided in Appendix 1. Buildings that are determined to be good candidates for LEED-EB+OM certification shall be ranked in order of priority and certification pursued starting with the highest priority building or buildings first. Buildings selected by Metro as eligible and prioritized for the LEED-EB+OM standard shall be certified by the Green Building Certification Institute.

4.1.2. Facility operations managers shall complete this analysis with support from a credentialed LEED Accredited Professional (AP) in the Operations + Maintenance standard.

4.2. Operational requirements: All Metro buildings, regardless of their eligibility for LEED-EB+M certification, shall develop programs that meet the following sustainable operations measures.

4.2.1. Recycling: All Metro buildings shall meet the following Business Recycling Requirements.[6]

a. Separate paper, cardboard and containers (aluminum cans, plastic bottles and glass) for recycling.
b. Ensure there are containers for collection of these recyclables.
c. Post signs at collection areas, indicating which materials should be recycled.

[4] Oregon Administrative Rules (OAR) 330-135-0010 to 330-135-0055, "1.5 Percent for Solar Energy in Public Building Construction Contracts. www.oregon.gov/ENERGY/CONS/docs/Solar_Public_Buildings_Final.pdf?ga=t

[5] Solar Reflective Index standards consistent with the LEED-New Construction standard, Sustainable Sites credit 7.2: Low-sloped (< or equal 2:12): minimum SRI = 78; Steep-sloped (> 2:12), min SRI = 29 as of this writing.

[6] Metro requires all local governments in the region to adopt Business Recycling Requirements. http://www.oregonmetro.gov/index.cfm/go/by.web/id=26294

4.2.2. Compost: All Metro buildings shall separate food waste and compostable, non-recyclable paper where hauling services for these source-separated materials are available.

4.2.3. Roofs: The following requirements intend to minimize the urban heat island effect, enhance urban habitats for wildlife and reduce stormwater runoff. An ecoroof feasibility engineering analysis shall be completed for all roofing projects that require a tear-off or full roof replacement. If the analysis shows that an ecoroof is feasible, the new roof shall include an ecoroof with at least 70% coverage and high solar reflectance index, Energy Star-rated roof material on any remaining non-ecoroof surface area. If the analysis shows that an ecoroof is not feasible, the new roof shall be a high solar reflectance, Energy Star-rated roofing material wherever this material is feasible for the roofing type. Project managers overseeing ecoroof projects shall apply for Ecoroof funding assistance from the city of Portland Ecoroof Incentive Program whenever available. www.portlandonline.com/bes/index.cfm?c=48724. If an ecoroof is deemed unfeasible from an engineering and design perspective, project managers shall propose an alternative method of treating stormwater runoff from the roof surface (e.g. bioswale).

4.2.4. All linear fluorescent lamps shall meet the standard set in the European Union Restriction on Hazardous Substances (RoHS) Directive for mercury levels in lamps.

4.2.5. All new electronic equipment purchased shall be Energy Star certified,[7] where certified products are available.

4.2.6. All water fixtures purchased shall be EPA Water Sense certified,[8] where certified products are available.

4.2.7. All Metro buildings larger than 5,000 square feet shall have an Energy Efficiency Action Plan in place, which shall include, but not be limited to, the following measures:

a. For buildings larger than 10,000 square feet, complete a comprehensive energy audit of the building using the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Level II standard for Energy Survey and Engineering Analysis. Funding for energy audits shall be built into the budgets for the building. If the Energy Trust of Oregon (ETO) provides funding for energy audits, the ETO audit process is acceptable. Energy audits should be completed every five to ten years.

b. Complete energy performance benchmarking using Energy Star Portfolio Manager where applicable to the building type.[9] If comparable energy performance benchmarks are not available for the building type, the methodology available in the LEED-EB O+M v2009 rating system may be used.[10]

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[7] The U.S. EPA certification program for energy efficient equipment and appliances is **Energy Star**. Find certified products at http://www.energystar.gov/index.cfm?fuseaction=find_a_product.

[8] The U.S. EPA certification program for water efficient fixtures is **Water Sense**. Find certified products at http://www.epa.gov/WaterSense/.

[9] Energy Star Portfolio Manager provides a national energy performance rating system, available for office buildings, K-12 schools, grocery stores, hotels and hospitals. www.energystar.gov/index.cfm?c=assess_performance.benchmark.

[10] The LEED O+M 2009 rating system also offers a methodology for energy performance benchmarking that can be used for venues. LEED EB+OM Energy & Atmosphere Credit 1 (Case 2, Option 2).

c. Compile a prioritized list of energy efficiency measures (EEM) appropriate to the building. Examples of EEM include upgrades or replacement of lighting, heating, ventilation and cooling (HVAC), insulation, motors or any custom measures unique to the facility as identified during an energy audit.

d. Integrate the EEM into the building Capital Improvement Project (CIP) and Renewal and Replacement (R&R) project lists.

e. Track utility usage through Metro's Utility Manager database.

f. Manage plug load through best practices for energy conservation; include turning off all non-essential lights, computers and monitors during non-business hours and reducing phantom or standby power usage.

4.3. Sustainability criteria for systems upgrades

4.3.1. Systems upgrades in Metro buildings shall require selection of most efficient options available and applicable for that system.

4.3.2. Replacement or upgrade of lighting, HVAC equipment and domestic hot water equipment shall, at a minimum, require installation of energy efficient options for which financial incentives are available from the ETO Existing Buildings Standard Incentives 11 or other energy efficiency incentive resources. Project managers shall apply for any incentives available from ETO for energy efficient equipment. If options are available that conserve more energy than those that are incented by ETO, those may be selected.

4.3.3. Total cost of ownership shall be used in the decision-making criteria for selection of retrofit or replacement projects for funding, rather than simple comparison of the initial first costs.

4.4. Sustainability criteria for campus-wide upgrades

4.4.1. When multi-building redesign projects occur at a campus scale (not just a single building), such as at the Oregon Zoo or Expo Center, sustainable operations will be integrated into the design process consistent with the Metro sustainability goals outlined in Section 1.5 of this policy.

4.5. Social equity in green building project contracts

4.5.1. Sheltered market: Consistent with Metro procurement policies and programs for departments to which the policies apply, all construction opportunities under $50,000 are solicited from and bid among only qualified Minority, Women and Emerging Small Business (MWESB) contractors. This requirement applies to energy efficiency retrofits and other sustainability-related building upgrades. See Metro Code section 2.04.115(h).

4.5.2. RFP/RFB evaluation: All projects that fall within the scope of this Green Building Policy are required to include social equity as an evaluation criterion in the Request for Proposals (RFPs) or Request for Bids (RFBs). Metro's Procurement Services division shall provide project managers with suggested evaluation criteria.

[11] The Energy Trust of Oregon's current listing of Existing Buildings Standard Incentives is available online at http://energytrust.org/business/incentives/commercial-buildings/equipment-upgrades/.

Section 5. Phases of implementation

5.1. This policy shall be implemented in the timeframes noted in this section, and by the groups of people identified in Section 7, Roles and Responsibilities.

5.2. Phase 1: Building evaluation and benchmarking (2012-2013)

5.2.1. Standards for new construction and major renovations are effective starting with the approval of this policy.

5.2.2. Conduct assessments of building performance and identify areas for improvement in Metro's environmental sustainability goal areas of energy usage, water consumption, waste generation and recycling, toxics usage, habitat-friendly development practices and stormwater impact.

5.2.2.1. Conduct energy audits and create energy efficiency action plans as described in Section 4.2.7.

5.2.3. Conduct assessments of existing buildings over 50,000 square feet for eligibility and applicability of LEED-EB+OM certification at the Silver level or higher as outlined in Section 4.1 of this policy. Metro's Sustainability Steering Committee will prioritize eligible buildings for the purposes of seeking certification and present to the COO for approval.

5.2.4. Develop and adopt operational policies and procedures that support the Green Building Policy, including but not limited to green cleaning policy, integrated pest management (IPM) policy and solid waste management policy.

5.2.5. Revise and update capital project and renewal and replacement funding processes to be consistent with the Green Building Policy.

5.2.6. Evaluate list of existing capital and renewal and replacement projects for the following ten years and identify opportunities to integrate sustainability into these projects.

5.2.7. Develop and adopt appropriate sustainable site management standards for Metro's developed properties. Examples of sustainable site management standards include Salmon Safe and the Sustainable Sites initiative.

5.2.8. Prioritize and categorize green building projects for Phase 2, Implementation.

5.3. Phase 2: Implementation (Starts January 2014)

5.3.1. Begin implementation of LEED-EB+OM certification for priority eligible buildings that Metro has prioritized during Phase 1, as described in Section 4.1.

5.3.2. Implement strategies to improve environmental performance of existing buildings in environmental sustainability goal areas.

5.3.3. Annually evaluate practices at all buildings and identify areas for continuous improvement in sustainable operations. Describe accomplishments and plan for continuous improvement in annual green building progress report, as described in Section 8.

Section 6. Roles and Responsibilities

6.1. Directors

6.1.1. Department and facility directors will integrate green building projects that support the requirements of this policy into their annual budget proposals.

6.2. Building operations managers

6.2.1. Conduct assessments of building performance and energy efficiency action plans, as described in Section 4.2.7.

6.2.2. Implement all standards for operations and maintenance of existing buildings outlined in Section 4.

6.2.3. Complete LEED-EB+OM eligibility assessments for buildings over 50,000 square feet, as described in Section 4.1.

6.2.4. Ensure training for operations staff and project managers in green building operations and maintenance.

6.3. Property and Project Management Office (PPMO)

6.3.1. Integrate green building criteria from this policy into the PPMO manual.

6.3.2. Provide training for project managers on green building standards required by this policy, as well as training on the implementation of this policy.

6.3.3. Hold project managers accountable for implementation of the Green Building Policy.

6.4. Project managers

6.4.1. Integrate Green Building Policy requirements into all new construction, major renovations and minor building retrofit projects where required.

6.4.2. For new construction and major renovation projects, submit the following:

6.4.2.1. Projects working toward LEED-NC Gold certification: submit LEED checklist and review comments from the Green Building Certification Institute at project completion indicating that the project has achieved the credits. Also suggest that Metro require a LEED scorecard of "expected" LEED credits by 50% design development phase to ensure design is on track, and reserve the right to follow up with teams and require narrative descriptions of strategies and project documents on a project-by-project basis as needed.

6.4.3. Incorporate green building requirements appropriate for the building size and type in the project budget starting with the initial design phase as described in Section 3.

6.4.4. Attend green building training.

6.5. Sustainability Steering Committee

6.5.1. The primary function of the Sustainability Steering Committee is to oversee implementation of the Metro Sustainability Plan for internal operations. Departments and facilities represented on the committee are: Oregon Convention Center and Expo; PCPA; Oregon Zoo; Parks & Environmental Services parks and solid waste facilities.

6.5.2. Evaluate and prioritize Metro buildings eligible for potential LEED-EB+OM certification and recommend buildings for certification to the COO.

6.5.3. Contribute to annual report on progress toward implementation of this policy.

6.6. Finance

6.6.1. Revise and update all funding processes to be consistent with the Green Building Policy as described in Section 7.

6.7. Procurement services

6.7.1. Align procurement policies and procedures to support Green Building Policy requirements.

6.8. Sustainability program

6.8.1. Develop and adopt operational policies and procedures that support the Green Building Policy as needed.

6.8.2. Report on progress toward implementing the Green Building Policy in the annual Sustainability Report to Metro COO and Council, as described in Section 8.

Section 7. Funding methods and tools

7.1. Funding methods: Identify funding needs for increasing sustainability of projects in Metro's Capital Improvement Program and Renewal and Replacement Program scheduled for the next five years (FY 2011-12 to FY 2016-17). Develop budgetary, funding and accounting methods for achieving sustainable outcomes consistent with this policy and with adopted sustainability goals listed in Appendix 4 of this policy. Deliver funding options to the COO in March 2012 for adoption.

7.2. Return on investment (ROI): Projects which result in a measurable reduction in electricity, natural gas or water consumption by increasing efficiency, and that will result in an avoided cost for ongoing operations, have a positive ROI to Metro. Energy efficiency projects which have a ROI of ten years or less shall be prioritized for funding from Metro's various funding sources even if there is an up-front capital investment required.

7.2.1. ROI for energy efficiency projects is typically estimated by the Energy Trust of Oregon or its partner service providers.

7.2.2. Accounting for ROI from energy efficiency projects will be determined by budgetary, funding and accounting methods identified in Section 7.1.

7.3. Energy Trust of Oregon incentives: When incentive funds are available from the Energy Trust of Oregon for energy efficiency projects, project managers shall apply these to their projects.

7.4. Total cost of ownership: Building maintenance projects shall use a total cost of ownership model to determine the best value for Metro over the expected life of the equipment, consistent with Metro's Sustainable Procurement Policy.

7.5. Fund applicability and department directors: Implementation of this policy shall be consistent with the administration process appropriate for each fund, including the General Fund, Solid Waste Fund, and Metro Exposition and Recreation Commission Fund.

7.6. Department and facility directors shall have the authority to integrate green building methods that support this policy into their proposed annual budgets.

Section 8. Reporting requirements

8.1. At the end of each new construction or major renovation project, the project manager is responsible for submitting the following information to the Sustainability Program: (1) amount of construction and demolition waste diverted from each project and reused on the job site (total tons, percent diverted, and list of primary materials diverted); (2) a summary of all LEED credits or Earth Advantage Commercial measures that were incorporated in the project, (3) a copy of certification document for either LEED or Earth Advantage Commercial when available, and (4) any MWESB-certified contractors used for the project.

8.2. At the end of each fiscal year, operations managers are responsible for submitting a summary of sustainable building operations and maintenance projects completed in the previous fiscal year including capital improvement projects as well as renewal and replacement projects that implement this policy. These summaries shall include: (1) a one to two-paragraph summary of the project; (2) which of the Metro Sustainability goals the project addresses; (3) any anticipated resource or financial savings expected from the project; (4) any MWESB-certified contractors used for the project.

8.3. Progress on implementation of the Green Building Policy shall be included in the Sustainability Plan annual report prepared by the Metro Sustainability Program and presented to the Metro Council.

8.4. Environmental sustainability performance of Metro buildings in the five goal areas of carbon emissions, toxics, waste, water and habitat/stormwater shall be reported in absolute terms (e.g., total gallons or cubic feet of water consumed from a building in a given year) and in normalized terms (e.g. gallons consumed per visitor per year, per full-time equivalent worker per year, per square foot area per year, depending on building type).

Section 9. Definitions and terms

For the purposes of this policy, the following terms and definitions apply:

9.1. **Appurtenance**: As defined by the U.S. Green Building Council, "an appurtenance is any built-in, nonstructural portion of a roof system, such as skylights, ventilators, mechanical equipment, partitions and solar energy panels."

9.2. **Earth Advantage Commercial**: A green building certification standard and rating system for or the design, construction and operation of high performance small commercial buildings developed and maintained by the Earth Advantage Institute.

9.3. **Ecoroof***:* An Ecoroof consists of a layer of vegetation over a growing medium on top of a synthetic, waterproof membrane. According to the City of Portland Ecoroof program, an Ecoroof significantly decreases stormwater runoff, saves energy, reduces pollution and erosion and helps preserve fish habitat.

9.4. **Energy Trust of Oregon (ETO)**: An independent nonprofit organization dedicated to helping utility customers benefit from saving energy and generating renewable energy. Cash incentives, information and services help customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas manage energy costs, increase comfort at home, improve productivity in the workplace and protect the environment.

9.5. **Bioswale**: Landscape elements designed to remove silt and pollution from surface runoff water. They consist of a swaled drainage course with gently sloped sides and often filled with vegetation.

9.6. **Building**: An enclosed structure that is regularly occupied by people and contains conditioned space (heated or cooled).

9.7. **FSC certified**: Forest Stewardship Council certification is an independent standard for sustainable management of forests and forest products, developed and maintained by the Forest Stewardship Council.

9.8. **Green Building Certification Institute (GBCI)**: A third-party organization that provides independent oversight of professional credentialing and project certification programs related to green building. GBCI administers certifications and professional designations within the framework of the U.S. Green Building Council's LEED® Green Building Rating Systems™.

9.9. **Integrated design**: Multidisciplinary collaboration, including key stakeholders and design professionals, from conception to completion of a building project, rather than the traditional series of hand-offs from owner to architect, from builder to occupant.

9.10. **LEED**: Leadership in Energy and Environmental Design, a green building certification standard and rating system developed and maintained by the U.S. Green Building Council.

- **LEED-NC**: LEED for New Construction and Major Renovations, latest version available
- **LEED-EB+OM**: LEED for Existing Buildings Operations and Maintenance, latest version available

9.11. **Major renovation or retrofit**: The replacement of <u>both</u> lighting <u>and</u> HVAC that serve more than 50% of the total building floor area.[12] Major renovation project scopes involve significant design and construction activities. For the purposes of this policy, Metro uses the Energy Trust of Oregon's most current definition of major renovation.

9.12. **RoHS**: The European Union Restriction on Hazardous Substances (RoHS) Directive restricts the use of six hazardous materials in the manufacture of various types of electronic and electrical equipment, including mercury levels in fluorescent lamps.

[12] This definition of "major renovation" is from the Energy Trust of Oregon (ETO). An updated definition is expected in September 2011. This is the threshold used by ETO for major renovations under their "New Buildings Program." http://energytrust.org/business/new-building/

9.13. **Solar Reflectance Index**: A measure of a material's ability to reject solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is 0 and a standard white (reflectance 0.80, emittance 0.90) is 100. Materials with the highest SRI values are the coolest choices for roofing.

9.14. **IAQ**: Indoor air quality – the nature of air inside the space that affects the health and well-being of building occupants.

9.15. **Sustainability**: Metro adopted the State of Oregon's definition of sustainability in 2008, as defined in ORS 184.421(4), as the working definition that shall be used at Metro: "'Sustainability' means using, developing and protecting resources in a manner that enables people to meet current needs and provides that future generations can also meet future needs, from the joint perspective of environmental, economic and community objectives."

9.16. **Total Cost of Ownership**: The comprehensive accounting of the total cost of ownership, including the initial costs, energy and operational costs, longevity and efficacy of service, and disposal costs.

APPENDIX 1
Sample evaluation tool for prioritization of Metro's existing buildings to pursue the LEED for Existing Buildings Operations and Maintenance standard

Metro Buildings over 50,000 GSF (not a complete list of Metro buildings)	Metrics								Impact Categories				
	Area (GSF)	Employees (FTE)	Visitors/yr	Operating hours	EUI (kBtu/SF/yr)	Energy Use (MBtu/yr)	Energy Star Score	Water (Gal/yr)	GHG & Energy	Water	Health	Cost	Public Visibility
Category Weight	n/a								X	X	X	X	X
Metro Regional Center	85,000												
Oregon Convention Center	877,000												
Expo Center	399,000												
Hall A-B-C	183,000												
Hall D	90,000												
Hall E	126,000												
PCPA - Hatfield	101,074												
PCPA - Keller	146,555												
PCPA - Schnitzer	77,625												
Metro South Transfer Station	85,515												
Metro Central Transfer Station	179,000												

Other metrics to include:

- Do we plan to make additional capitol investments in this building? Y/N
- Prioritization criteria from Metro Sustainability Plan

Appendix 2
Sample social equity evaluation criteria for requests for proposals

The following evaluation criteria are recommended for use in Requests for Proposals by the Metro Procurement Services department.

Diversity in Employment and Contracting:

- Work Force Diversity – Describe your work force demographics (number of employees, race and gender) and the measurable steps taken to ensure a diverse work force, including company policies and practices that promote the hiring and retention of women and ethnic minorities.

- Diversity in Contracting – Describe your history of working with diverse firms, including any MWESB-certified firms. Describe a project for which you worked with minorities, women or emerging small businesses. Please provide the project name, method used to achieve participation – for example, joint ventures, subcontracts or purchase of equipment or supplies from a certified firm – and the dollar amount or percentage of the project budget expended on such participation.

- Diversity of Firm – Describe the ownership of your firm and whether or not your firm is certified by the State of Oregon as an MBE, WBE or ESB. Provide certification number, if applicable.

Appendix 3
Square footage of Metro buildings

NOTE: Numbers next to facility names refer to square footage.

Building size	**Large facilities** (over 70,000 square ft)	**Medium-size facilities** (5,000-70,000 square feet)	**Small** (under 5,000 square feet) **and very unique facilities**
Sample of Metro buildings by size	Metro South transfer station (85,515) Metro Central transfer station (178,790) Metro Regional Center (111,900) OCC (876,651) Expo Hall A-B-C (182,824) Hall D (89,707) Hall E (126,116) PCPA Hatfield (101,074) Keller (146,555) Schnitzer (77,625	Some Zoo buildings MetroPaint facility-leased (22,500) Glendoveer golf course Ringside restaurant (9,775) Tennis center (24,600) Driving range building (35,200)	Some Zoo exhibits Metro South and Central hazardous waste facility (about 3,500 each) St. Johns Landfill admin facility (3,800) Blue Lake House (event rental) (1,400)

Appendix 4
Metro sustainability goals for internal operations
From Metro Sustainability Plan, adopted 2010

GHGs: Reduce greenhouse gas emissions 80 percent below 2008 levels by 2050.
Indicators: Greenhouse gas emission sources for Scopes I, II and II

	SCOPES 1, 2 and 3 EMISSIONS (excluding Supply Chain) **Reduction targets (quantitative)**	SCOPE 3 SUPPLY CHAIN EMISSIONS **Process targets (qualitative)**
3 Years (2013)	Arrest GHG emissions	Develop a process to quantify Scope 3 emissions reductions and establish quantitative targets.
5 Years (2015)	15 percent reduction	Advance efforts to reduce Scope 3 emissions based on current best practices and available tools and data.
10 Years (2020)	25 percent reduction	
15 Years (2025)	40 percent reduction	
40 Years (2050)	80 percent reduction	

Toxics: Eliminate the use or emissions of PBT's and other priority toxic and hazardous substances by 2025.
Indicator: Percentage of chemical products used at Metro facilities that have ingredients with a "3" rating in MSDS inventory for health, environmental or physical hazard

	Reduction targets (quantitative)	**Process targets (qualitative)**
3 Years (2013)	20 percent reduction in chemical products in use at Metro with a "3" rating in one or more hazard categories (health, environment or physical hazard)[13]	Complete inventory with current ingredient information obtained for all chemical products in use, including quantity used. Include products used by contractors on Metro property. Develop process to quantify use of less-toxic preferable products and establish interim targets.
5 Years (2015)	45 percent reduction in the percentage of chemical products used at Metro facilities that have ingredients with a "3" rating in *at least one* category. Products with a "3" rating in *all 3* hazard categories are no longer in use	Advance efforts to reduce toxic emissions from durable goods and indirect emissions, and establish quantitative interim targets for reducing these emissions. Increase procurement of less-toxic preferable products.
10 Years (2020)	No chemical products used at Metro facilities have ingredients with a "3" rating, including those used by contractors.	
15 Years (2025)	All chemical products used at Metro facilities are designated preferable products, or earn a "1" rating in all 3 hazard categories.	

[13] Product hazard evaluation criteria were established to rate the potential health, environmental and physical hazard risks of chemical products in the inventory. See toxics baseline section and appendix of Sustainability Plan for methodology.

Waste: Recover all waste for recycling or composting, and reduce overall generation of waste by 2025.
Indicators: Waste generated by weight (garbage plus recycling) and percent recovered for recycling or compost (recycling rate)

	Reduction targets (quantitative)	Process targets (qualitative)
3 Years (2013)	Metro facilities recover 50 percent of waste for recycling or compost (Metro-wide facility average).	Establish monthly waste and recycling reporting for all Metro locations.
5 Years (2015)	Metro facilities recover 75 percent of waste for recycling or compost. Increase recycling at parks to 25 percent recovery. Reduce waste generated 10 percent from baseline.	Develop long-term waste generation targets.
10 Years (2020)	Metro facilities recover 90 percent of waste for recycling or compost.	Advance efforts to reduce overall waste generation.
15 Years (2025)	Metro facilities divert 100 percent of waste for recycling, compost or other sustainable waste treatment method (i.e. anaerobic digestion).	

Water: Use 50 percent less water from 2008 levels by 2025.
Indicator: Gallons of water consumed from water utilities and on-site sources

	Reduction targets (quantitative)	Process targets (qualitative)
3 Years (2013)	15 percent decrease in water consumption	Establish water tracking and reporting system. Include all submeters.
5 Years (2015)	30 percent decrease	
10 Years (2020)	40 percent decrease	
15 Years (2025)	50 percent decrease	

Habitat: Metro's parks, trails and developed properties positively contribute to healthy, functioning urban ecosystems and watershed health.
Indicators: Percentage effective impervious area (EIA) and number of habitat-friendly practices used on developed properties

	Reduction targets (quantitative)	Process targets (qualitative)
3 Years (2013)	Arrest and begin to reduce effective total impervious area (EIA) on developed properties.	Identify habitat and stormwater improvement opportunities on Metro developed properties through site assessments. Set numerical targets for effective impervious area (EIA) and increasing use of habitat-friendly development practices.
5 Years (2015)	Advance efforts to reduce EIA and increase use of habitat-friendly development practices on Metro's developed properties, quantitative targets to be developed based on site assessments.	
10 Years (2020)		
15 Years (2025)		

Appendix 5
Reporting template for new construction, major renovation and operations and maintenance projects that support the Green Building Policy

New construction and major renovation projects

At the end of each new construction or major renovation project, the project manager is responsible for submitting the following information to the Sustainability Program:

(1) Report the amount of construction and demolition (C&D) waste diverted from each project and reused on the job site (total tons, percent diverted, and list of primary materials diverted).

(2) Provide a summary of all LEED credits or Earth Advantage Commercial measures that were incorporated in the project.

(3) Provide a copy of certification document for either LEED or Earth Advantage Commercial when available.

(4) Please list the names of MWESB-certified firms used for the project, and what percentage of the total project cost went to MWESB-certified firms.

Operations and maintenance projects

At the end of each fiscal year, operations managers are responsible for submitting a summary of sustainable building operations and maintenance projects completed in the previous fiscal year, including capital improvement projects and renewal and replacement projects that implement this policy.

(1) Provide a one to two-paragraph summary of the project.

(2) Note which of the Metro sustainability goals the project addresses and how. (See goals reprinted in the appendix of this policy.)

(3) Are there any anticipated resource or financial savings expected from the project? If so, please summarize.

(4) Please list the names of MWESB-certified firms used for the project, and what percentage of the total project cost went to MWESB-certified firms.

Appendix 6
Ecoroof Practicality Check Sheet, City of Portland

See document that follows. Original document is from the "City of Portland Green Building Implementation Guide 2010," Portland Bureau of Planning and Sustainability.
http://www.portlandonline.com/bps/index.cfm?a=304948&c=50449

Green Building Policy Ecoroof Practicality Check Sheet

Project manager: _____

I have read and understand the ecoroof Green Building Policy:

Project Manager Signature: _____ Date: _____

Facility type (e.g. pump station, park shelter, garage, office, community center, house):

_____

Project address or location: _____

1. Structural Capacity

For existing construction

- What is the weight-bearing capacity of the facility? _____ lbs/sf
- If the building cannot hold an ecoroof, what upgrades are needed? _____

  _____
- What is the cost of the upgrades? $ _____

For new construction

- Is your facility designed to hold the weight of an ecoroof? (check ✔ one) ☐ Yes ☐ No

2. Costs and Benefits

For New and Existing Construction

- What is the cost of the "green" portion of the ecoroof (drainage layer, root barrier, growing media, vegetation, and irrigation)? $_____
- Are you considering an alternative roofing material (e.g. high reflectance Energy-Star rated roofing material, glass, tile)?

  _____
- What is the cost of the alternative roofing material? $_____ /sf
- Table 1 in the 2008 *Cost Benefit Evaluation of Ecoroofs* provides a list of benefits (see Resources section). If an ecoroof is not used, how will these benefits be provided? _____

  _____

3. Maintenance

For New and Existing Construction

- Is there a maintenance plan for the ecoroof? (check ✔ one) ☐ Yes ☐ No
- If using high reflectance roofing material, is there a maintenance plan for this portion of the roof? ☐ Yes ☐ No
- Who will maintain the roof? (check ✔ all that apply)
  ☐ City staff ☐ Private company ☐ Other _____
- What is the estimated cost to maintain the ecoroof? $_____ per year
- What is the estimated cost to maintain alternative roofing material? $_____ per year

- How will maintenance be funded? (check ✔ all that apply)
  ☐ Operating dollars ☐ Other_____
- How does the cost of maintaining an ecoroof compare with your selected alternative material (e.g. high reflectance roofing, glass, tile?) (check ✔ one)
  ☐ More ☐ Less ☐ Same

4. Design

For New and Existing Construction

- Does the facility have formal historic designation? ☐ Yes ☐ No
- Do changes to the facility's roof require approval from the Landmarks Commission and/or design review?
  ☐ Yes ☐ No
- What is the zoning for the site ? _____
- Does the zoning affect the type of roof that can be used? ☐ Yes ☐ No
  If yes, describe the zoning restriction(s) _____
- Is there community input that needs to be considered? ☐ Yes ☐ No
  If yes, describe community concerns or wishes_____

5. Technical Assistance

For New and Existing Construction

- Who have you contacted for information and technical assistance about ecoroofs? _____
- Have all your questions been answered? ☐ Yes ☐ No
- Have you consulted with BES staff or resources on ecoroofs? ☐ Yes ☐ No

6. Final decision

- Will you use an Ecoroof? ☐ Yes _____% of roof covered ☐ No
  If no, explain why: _____
- Will you use a high reflectance roofing material? ☐ Yes _____% of roof covered ☐ No
  If no, explain why: _____
- If using another roofing material, what is it? _____
  Why: _____

If you do not specify an ecoroof or Energy-Star roof, submit this form to your bureau director and Commissioner in Charge.

Bureau Director Signature: _____ Date: _____

BES WS 1041 March 2010