CLACKAMAS COUNTY BOARD OF COUNTY COMMISSIONERS
Policy Session Worksheet

Presentation Date: 11/28/2017 **Approx. Start Time:** 10:30 **Approx. Length:** 30 min

Presentation Title: Green Building Policy Options

Department: Finance – Facilities Management; Transportation and Development – Resource Conservation and Solid Waste

Presenters: Eli Seely; Eben Polk; Laurel Butman

Other Invitees: Jeff Jorgensen; Cory Johnson

WHAT ACTION ARE YOU REQUESTING FROM THE BOARD?

Provide guidance on drafting green building policy for Board approval.

EXECUTIVE SUMMARY:

The County Energy Policy adopted by the Board in 2016 commits the County to establishing an energy standard for all new buildings. The Energy Policy emphasizes consideration of the total lifecycle cost to own and operate a building, not only the upfront cost. Staff are requesting guidance on establishing the energy standard for new buildings and whether the Board wishes to also consider additional options for policy regarding other aspects of green buildings.

An energy standard can be implemented in several ways. The most common is to require buildings to exceed the performance of a minimum code-compliant building by a certain percentage, to reach an overall target Energy Use Intensity (EUI) essentially miles per gallon for a building, or benchmarking each building's EUI against other similar buildings.

Moving past an energy standard for new buildings, to a more comprehensive and overarching green building policy, would address how the building serves our employees, the materials it uses, how it uses water, etc. Existing County policy set in 2007 is to build to at least LEED Silver standards. The County could update its existing 3rd party standard and/or develop a customized set of standards. The County could also incorporate other building certification guidelines into the Policy, such as Earth Advantage, WELL Buildings, or Living Building Challenge. Finally, the County could select certain technologies to define as standard building practices, such as the use of cross-laminated timber or additional renewables beyond the 1.5% required by state law.

The Energy Policy also commits the County to setting a goal for renewable energy through purchasing clean power and/or onsite generation, a process intended to take place in 2018.

FINANCIAL IMPLICATIONS (current year and ongoing):
Is this item in your current budget? ☒ YES ☐ NO

What is the cost? Studies have estimated the cost of green building at negative 1 to plus 3% of upfront costs, with payback periods ranging between -5 and 70 years, averaging around 18. 0.5 FTE of Facilities staff time is dedicated to our sustainability efforts.

What is the funding source? Allocated costs for staff time; capital budget for new construction

STRATEGIC PLAN ALIGNMENT:

- How does this item align with your Department's Strategic Business Plan goals?
  This policy aligns with the Facilities Management performance target of reducing energy use in 10% of buildings each fiscal year.
- How does this item align with the County's Performance Clackamas goals?
  Adopting an energy standard supports the strategic priority to build public trust through good government and to honor, utilize, promote, and invest in our natural resources.

LEGAL/POLICY REQUIREMENTS:

The County Energy Policy set a goal to a) reduce the County's energy use 5% from 2014 levels by 2020, and b) establish an efficiency standard for new construction by the end of 2017. (Staff anticipates 2018 is more realistic.) The Board recently adopted a Resolution Reaffirming the County's Commitment to Combat Climate Change; improved building efficiency is a key component of that effort.

Oregon state law requires that 1.5% of the total project cost of public capital construction or renovations with a total cost greater than $1 million be spent on green energy technology.

PUBLIC/GOVERNMENTAL PARTICIPATION:

A recommendation for an energy standard will be developed with input from the existing County Energy Team. If the Board directs staff to draft a more comprehensive policy, staff would establish a working group drawn from members of the Energy Team, other key County departments, and outside experts. Should the Board so direct, staff could also solicit input from the public.

OPTIONS:

Should the County consider, in addition to options for our energy standard, a more comprehensive green building policy?

A) Direct staff to continue with the establishment of a new-construction energy efficiency standard ONLY.
B) Direct staff to develop a comprehensive green building policy, inclusive of energy efficiency.
C) Direct staff to finish establishing a new-construction energy efficiency standard, then begin drafting a comprehensive policy.

If B or C is preferred, what approaches does the Board want staff to explore? Any or all of:

1. Increased LEED commitment
2. Other 3rd party green building standards
3. A customized set of specific technologies and practices that may or may not include or reference a 3rd party standard

RECOMMENDATION:

Staff respectfully recommends Option B or Option C and further direction to staff to explore approaches 1-3 and bring back recommendations to the Board regarding which approach is best for the County.

ATTACHMENTS:

Attachment A: Example Policies

SUBMITTED BY:

Division Director/Head Approval ES & EP
Department Director/Head Approval MG & BC
County Administrator Approval LSB

For information on this issue or copies of attachments, please contact Eli Seely @ 503-557-6425.

Excerpt of ORS 276.915

276.915 Energy design requirements; rules; fees; waiver.

(1) An authorized state agency may construct or renovate a facility only if the authorized state agency determines that the design incorporates all reasonable cost-effective energy conservation measures and alternative energy systems. The determination by the authorized state agency shall include consideration of indoor air quality issues and operation and maintenance costs.

(2) Whenever an authorized state agency determines that a major facility is to be constructed or renovated, the authorized state agency shall cause to be included in the design phase of the construction or renovation a provision that requires an energy consumption analysis to be prepared for the facility under the direction of a professional engineer or licensed architect or under the direction of a person that is prequalified in accordance with this section. The authorized state agency and the State Department of Energy shall agree to the list of energy conservation measures and alternative energy systems that the energy consumption analysis will include. The energy consumption analysis and facility design shall be delivered to the State Department of Energy during the design development phase of the facility design. The State Department of Energy shall review the energy consumption analysis and forward its findings to the authorized state agency within 10 working days after receiving the energy consumption analysis, if practicable.

(3) The State Department of Energy, in consultation with authorized state agencies, shall adopt rules to carry out the provisions of ORS 276.900 to 276.915. These rules shall:

(a) Include a simplified and usable method for determining which energy conservation measures and alternative energy systems are cost-effective. The method shall reflect the energy costs of the utility serving the facility.

(b) Prescribe procedures for determining if a facility design incorporates all reasonable cost-effective energy conservation measures and alternative energy systems.

(c) Establish fees through which an authorized state agency will reimburse the State Department of Energy for the department's review of energy consumption analyses and facility designs and the department's reporting tasks. The fees imposed may not exceed 0.2 percent of the capital construction cost of the facility and must be included in the energy consumption analysis required in subsection (2) of this section. The State Department of Energy may provide for a waiver of fees and reviews if the authorized state agency demonstrates that the facility will be designed and constructed in a manner that incorporates only cost-effective energy conservation measures or in a manner that exceeds the energy conservation provisions of the state building code by 20 percent or more.

(d) Periodically define highly efficient facilities. A facility constructed or renovated after June 30, 2001, shall exceed the energy conservation provisions of the state building code by 20 percent or more, unless otherwise required by rules adopted under this section.

Excerpt of Metro Green Building Policy

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 over 70,000 square feet shall be built to the 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.

The most recent version of the LEED standard will be followed.

3.2.1. In meeting this standard, the following LEED-NC credits are required 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. The following credits (which closely align with Metro's sustainability goals) are preferred, 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.

Metro Green Building Policy – October 2011 Page 4

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% of 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.”

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.

Excerpt from Multnomah County Green Building Policy

The Multnomah County Board of Commissioners Resolves:

1. That Resolution No. 04-178 dated December 2, 2004 is repealed.
2. That high performance green building practices shall be utilized for all Multnomah County building construction and major renovation projects 10,000 square feet and greater.
    - Multnomah County will strive for the highest level of LEED certification whenever practicable.
    - If costs to achieve the highest level of LEED certification are over 3% of the entire cost, the project will be brought to the Board for approval.
3. That new building construction projects for County-owned facilities will be designed and built to achieve LEED Gold certification for new construction (LEED-NC) or better, when the total LEED project life cycle cost analysis demonstrates an operational cost savings payback within 10 years for any cost premium above industry standard.
    - At a minimum, seven of the total LEED points achieved shall be energy efficiency credits or the building will be designed to achieve 30% energy efficiency above the Oregon Energy Code.
4. That major renovation projects in all County-owned buildings will achieve LEED Gold certification for commercial interiors (LEED-CI) or better, when the total LEED project life cycle cost analysis demonstrates an operational cost savings payback within 10 years of any cost premium above industry standard.
5. That major renovation projects 10,000 square feet and greater in all County-leased buildings will achieve LEED Gold certification for commercial interiors (LEED-CI) or better, when the total LEED project life cycle cost analysis demonstrates an operational cost savings payback within the term of the lease for any cost premium above industry standard.

Excerpt from City of Portland Green Building Policy

1.1 All new, occupied City-owned buildings over 20,000 square feet and/or with a total construction budget over $5 million will:

A. Register and certify for the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) at the Gold level and/or achieve Living Building Challenge status.

B. Achieve 15 percent energy savings beyond the applicable Oregon Energy Efficiency Specialty Code.

C. Incorporate on-site renewable energy systems and meet the State of Oregon's 1.5 percent for Green Technology requirement.

D. Earn or meet LEED's advanced energy metering credit requirements to support ongoing energy monitoring and commissioning.

E. Earn or meet LEED's enhanced commissioning credits requirements.

F. Use native and/or non-invasive drought-tolerant plants, and use no potable water for irrigation, except for the first two years to establish plantings, or in cases of drought.

G. Select WaterSense-labeled products for all eligible fixtures to reduce total potable water use by at least 20 percent over the building's estimated baseline.

H. Cover the entire roof, minus skylights, mechanical systems, and fire and access routes, with an ecoroof. Exemptions to this requirement must be approved by the Commissioner-in-Charge of the bureau or office after completing the compliance checksheet in Appendix A. Bureaus and offices are encouraged to consult with the Bureau of Environmental Services for technical assistance.

I. Incorporate stormwater management and related watershed enhancement strategies that support Salmon Safe certification during construction and after project completion.

J. Incorporate measures to reduce bird strikes and fatal light attraction, including treatment of exterior glass and glazed surfaces, lighting design, best management practices and other applicable measures as specified in Appendix B.

K. Provide or lease no more than the minimum auto parking required by code. In extraordinary circumstances, with written approval from the Bureau of Transportation, and with commitment to implement an approved Transportation Demand Management (TDM) Plan, additional on-site auto parking above code minimum may be provided. Additional auto parking shall be limited to the minimum shown in a parking demand analysis approved by the Bureau of Transportation. Extraordinary circumstances may include: visitors or employees arriving or departing a site when there is no transit service within ¼ mile of the site and there is insufficient on-street parking within ¼ mile of the site to meet projected demand. City fleet vehicle parking is exempt from this requirement.

L. Price auto parking for employees and visitors consistent with parking prices within one-quarter mile of the site.

M. Provide covered and secure bicycle parking for employees and visitors at an amount equal to the 25% mode share target in the City's Climate Action Plan unless and until replaced by mode share targets in the 2015 Transportation System Plan.

N. Pre-wire charging stations at the time of building and parking lot construction for City-owned electric vehicles where financially feasible and where vehicles will be parked onsite after the project is complete.

O. Follow construction waste prevention guidelines in Section 3.

P. Follow space allocation standards and space planning guidelines in Appendix C.

1.2 All new, occupied City-owned buildings under 20,000 square feet and/or with a total construction budget under $5 million will:

A. Register and certify for the US Green Building Council's Leadership in Energy and Environmental Design (LEED) Building Design and Construction (BD+C) at the Gold level **and/or** pursue Earth Advantage Commercial certification at the Gold level, and/or design, build and operate to achieve Living Building Challenge status.

B. Achieve 5 percent energy savings beyond the applicable Oregon Energy Efficiency Specialty Code.

C. Incorporate onsite renewable energy systems and/or meet the State of Oregon's 1.5 percent for Green Technology requirement.

D. Earn or meet LEED's commissioning credit requirements.

E. Use native and/or non-invasive drought-tolerant plants and use no potable water for irrigation, except for the first two years to establish plantings, or in cases of drought.

F. Select WaterSense-labeled products for all eligible fixtures to reduce potable water use.

G. Cover the entire roof, minus skylights, mechanical systems, and fire and access routes, with an ecoroof. Exemptions to this requirement must be approved by the Commissioner-in-Charge of the bureau or office after completing the compliance checksheet in Appendix A. Bureaus and offices are encouraged to consult with the Bureau of Environmental Services for technical assistance.

H. Incorporate stormwater management and related watershed enhancement strategies that support Salmon Safe certification during construction and after project completion.

I. Incorporate measures to reduce bird strikes and fatal light attraction, including treatment of exterior glass and glazed surfaces, lighting design, best management practices, and other applicable measures as specified in Appendix B.

J. Provide or lease no more than the minimum auto parking required by code. In extraordinary circumstances, with written approval from the Bureau of Transportation, and with commitment to implement an approved Transportation Demand Management (TDM) Plan, additional on-site auto parking above code minimum may be provided. Additional auto parking shall be limited to the minimum shown in a parking demand analysis approved by the Bureau of Transportation. Extraordinary circumstances may include: visitors or employees arriving or departing a site when there is no transit service within ¼ mile of the site and there is insufficient on-street parking within ¼ mile of the site to meet projected demand. City fleet vehicle parking is exempt from this requirement.

K. Price auto parking for employees and visitors consistent with parking prices within one-quarter mile of the site.

L. Provide covered and secure bicycle parking for employees and visitors at an amount equal to the 25% mode share target in the City's Climate Action Plan unless and until replaced by mode share targets in the 2015 Transportation System Plan.

M. Pre-wire charging stations at the time of building and parking lot construction for City-owned electric vehicles where financially feasible and where vehicles will be parked onsite after the project is complete.

N. Follow construction waste prevention guidelines in Section 3.

O. Follow space allocation standards and space planning guidelines in Appendix C.