



## MEMORANDUM

**TO:** Comprehensive Plan Citizen Advisory Committee (CAC)

**FROM:** Beth St. Amand, Senior Planner

**DATE:** March 15, 2013

**SUBJECT:** Agenda Item #4: Energy and Environment Goals and Policies

### ACTIONS

1. Begin final review of the “Energy and Environment” goals and policies and complete if time allows. Consider recommending the goals and policies to the Planning Commission. This section contains the following topics:
  - a. Energy;
  - b. Sound Quality;
  - c. Solid Waste Management; and
  - d. Air Quality.

### AGENDA ITEM 2: CAC GOAL AND POLICY REVIEW

The sixth action area, Community Health & Public Safety (CH&PS), is divided into two parts. Part 1, Healthy Safe People includes the **Energy and Environment** goals and policies.

#### A. Energy

**CAC Review: 10/25/12; SAB Review 10/19/12; PC review 11/5/12, 11/14/12, and 2/25/13 (Goal C and related policies)**

Energy includes portions of the existing Goal 11.5: Energy (Public Facilities) section and Goal 13: Energy.

**Purpose of Proposed Updates:** Significant changes since the CAC review are highlighted yellow in the attachment.

1. Clarify existing language.
2. Remove regulatory language.
3. Reflect City efforts since 1994, new requirements or conditions (2007 Sustainability Plan, “Energy Efficiency and Conservation Strategy,” the “Local Government Operations GHG Inventory” (2000 and 2008), and the “Community GHG Inventory and Climate Action Opportunities” (2012).
4. Reflect 2035 Community Vision and public comment received (2010 Community Vision and Values Survey, an Open City Hall question, and 2012 Community Health and Public Safety Virtual Summit)
5. Rework action area to create three distinct goals. Add a policy addressing green building and energy

efficiency; group similar policies together.

### **CAC Changes**

The CAC reviewed Energy on 10/25/12; comments focused on rewriting for clarity and brevity. The Sustainability Advisory Board (SAB) reviewed the Energy policies and made recommendations at its October 15 meeting. The CAC considered the SAB recommendations in its October review and revised accordingly.

### **Planning Commission Changes**

During the 11/5/12 discussion, the Commission recommended having broader green-building policies in this section. There was also concern that the solar code policies that are currently implemented by the Community Development Code may conflict with the tree code: the existing solar policies (policies 8 and 9) reflect the 1990s focus on solar energy. Today, energy efficiency efforts extend beyond solar access to building design, small-scale renewable energy projects, and other efficiency and conservation measures.

On 2/25/13, the Commission reviewed the attached revisions that include a new Goal C (these changes are highlighted in yellow). This Goal provides direction for green building and energy efficiency policies, and groups all of the related policies under this Goal. The Energy section already contained proposed policies that captured elements of green building. The existing solar policies (7-9) are condensed into one policy numbered #7. Staff had proposed potential implementation items for these policies to provide context for the Commission's review; they are listed at the end.

The Commission also questioned the "small-scale distributed energy generation" under Goal A, Policy 4. There was some concern that the originally proposed wording to remove barriers was premature. Staff worked with the sustainability coordinator to revise the policy, which provides general direction for an associated action item to review the development code for barriers.

### **Question for the CAC:**

Initially, Goal B read as follows: "Reduce greenhouse gas emissions and energy consumption to reduce energy costs and the social, economic, and environmental effects of climate change." The CAC had indicated that it would add "conservation" to this proposed Oct. 2012 goal to strike a compromise between the SAB's suggestions to add "energy independence" at the goal's end and the existing language.

However, this goal has been revised since CAC review to restructure repetitive goals and policies.

**Question 1 : Please review the revised goal B. Does the phrase "Reduce net community energy use" capture conservation effectively, or does it need to be called out here?**

The CAC should review the goals and policies and make a recommendation to the Planning Commission.

## **B. Sound Quality**

***CAC Review 9-27-12; PC Review 2-11-13***

### **Purpose of Proposed Updates:**

1. Clarify existing language. *Existing policies 1 and 7 did not tie these vague statements to land use tools; the remaining policies were difficult to read.*
2. Remove regulatory language. *Existing policy #2 included non land-use regulatory language.*
3. Provide policy guidance for limiting or mitigating noise conflicts in mixed-use development during development review. *This recognizes that there may be noise conflicts with new mixed-use projects, and this provides guidance to include noise reduction features.*

### **CAC Changes**

The CAC reviewed these policies in September 2012. The CAC felt that the existing references to “quiet character” were at odds with the Vision 2035’s desired outcome of a vibrant community. Staff has resolved this conflict by focusing language on preserving the quiet nature of residential neighborhoods. In mixed-use centers, an additional policy focuses on mitigation of noise conflicts through design.

Other comments included addressing noise impacts of new transportation facilities, waste facilities, and having objective noise standards. The CAC also questioned how some of the policies would be implemented, either through measurement or monitoring. Staff has responded to this by focusing the revised policies on development standards and including Action Plan items.

### **Planning Commission Changes**

The Planning Commission reviewed these policies at its February 11, 2013, meeting. Changes focused on language and are reflected in the attached policies. Additionally, the City Attorney’s Office recommended that the following language in Policy 1 be struck: ordinances “that prescribe fines and other penalties for noise violations.” This phrase refers to the City’s Municipal Code Chapter 34, which regulates loud and disturbing noise as a nuisance and contains specific noise prohibitions. Chapter 34 is not land use regulation. However, by including a specific reference in the Comprehensive Plan, the concern is that it becomes land use and thus subject to land use legal requirements. The above revision avoids having the noise regulations labeled as land use, retains the overall intent and provides implementation flexibility.

The CAC should review the goals and policies and make a recommendation to the Planning Commission.

## **C. Solid Waste Management**

***CAC Review 9-27-2012; PC Review 11-14-12; SAB Review 11-19-12***

### **Purpose of Proposed Updates:**

1. Clarify existing language.
2. Remove regulatory language.
3. Update to reflect current terminology, regional requirements and practice for this Environmental Quality area.
4. Incorporate recent City efforts, including conservation and sustainability.
5. Reflect the Community Vision and Values and results from the Aug. 2012 virtual summit.

### **CAC Changes**

The CAC reviewed these policies in September 2012. The CAC agreed to change this section's title from Land Resources Quality to Solid Waste Management. The CAC suggested adding policies to reduce overall consumption, reflecting the Lake Oswego Greenhouse Gas Inventory findings, and to increase recycling participation. The new Policy 3 addresses both recommendations. Additional comments included language edits, debating whether to use optimize or achieve in the goal, verifying that Policy 3 did not conflict with our current franchise agreement for waste hauling (changes are reflected), and clarifying that we had sufficient landfill capacity for our community's waste (we have 100 years of capacity, thus, no policy change required).

### **Other Changes**

The Planning Commission reviewed these policies at its Nov. 14, 2012, meeting. The brief discussion debated the goal's wording and suggested that it should capture a system-wide approach and be clear.

### **Questions for the CAC:**

The SAB reviewed these policies on Nov. 19, 2012. The discussion is summarized as follows, with proposed changes for the CAC to consider:

1. Address "zero waste" principles. "Zero waste" means reducing waste whenever possible, promoting the management of all materials to their highest and best use, and protecting public health and safety and the environment."
  - a. Option 1: Add "and move toward zero waste" to the first sentence in the **Goal**.
  - b. Option 2: Add it under **Policy 1** more generally; see next comment.
  - c. Option 3: No change.
  
2. Policy 1, b. "highest and best use – what does it mean? They suggested this policy should reflect that recycling markets can shift and what might be best end-use next year may be different in 15 years."
  - a. Option 1: Add language to 1 b. that "Uses zero waste principles\* to promote the highest and best use of materials to eliminate waste and pollution, emphasizing a closed-loop system of production and consumption;"
  - b. Option 2: Leave as is. Add an asterisk and define "highest and best use" as "Prioritizing end use recyclable materials to maximize resource conservation and minimize environmental and economic impacts through diversion for use in commodity markets rather than being placed on the land."
  
3. Add a policy that addresses material selection and waste prevention/reduction and GHG reduction opportunities for materials management in buildings and infrastructure.

Option 1: Proposed by SAB: "Promote construction practices that use sustainable building, such as materials with recycled content, rapidly renewable materials, or materials extracted, processed or manufactured regionally."

Option 2: This refers to green building practices, which is captured in the energy policies. Repeat or refer to the LEED policy C-1 in Energy.

4. Policy 11. The SAB suggested adding some carrot language, like “encourage” prior to the word “increase.”  
Option: Rework Policy 11 to include incentives, education and other efforts.  
“Use education, incentives and other efforts to increase the use of a) deconstruction during demolition to recover reusable building materials; and, b) recycling to reduce the amount of solid construction waste being diverted to landfills. “
5. SAB comment: Add a new, related policy that addresses end-of-life efficiencies, such as “Promote reuse of high-value building materials and deconstruction, instead of demolition, to reduce waste and GHG emissions.”  
Option: Does Policy 11 effectively cover this issue with the above revisions?

### **Questions for the CAC from Staff:**

Revisions to the Goal:

There was significant debate at both the CAC and PC level regarding the resource recovery wording, including questioning what optimize meant, and that maximize went too far. The SAB proposed adding “move toward zero waste” to the goal (as discussed above).

Staff has considered all of these comments, and proposes breaking the goal into two separate goals and Option 1 below:

- Option 1: For the second goal, use the verb Optimize. This means to make the best use of, or carry out to maximum efficiency. It reflects the original goal as well, but the slight wording change (adding “systems”) means we are going to make the best use of all of the systems available to us.
- Alternative option: Use the word “increase.” This is consistent with the virtual summit question that asked, “Over the next 25 years, what do you believe are the three (3) most important things the City and/or community can do to reduce its impact on the natural environment?” Seventy-three percent of respondents chose “reduce the amount of materials that are discarded to landfill and increase the amount of materials that are composted, recycled or reused.”
- Alternative option: Replace both goals with “Move toward zero community waste,” as proposed by the SAB.

**Question 6: Please review the proposed changes. Does the CAC concur with breaking the goal into two separate goals and Option 1 above?**

The CAC should review the goals and policies and make a recommendation to the Planning Commission.

## **D. Air Quality**

***CAC Review 9-27-2012; PC Review 11-14-12; SAB Review 11-19-12***

### **Purpose of Proposed Updates:**

1. Clarify existing language.
2. Remove policies that are not enforced by the City.
3. Incorporate recent City efforts.
4. Reflect the Community Vision and Values and results from the Aug. 2012 virtual summit.

### **CAC Changes**

The CAC reviewed the goal and policies in September 2012. The CAC debated the goal's wording and made some changes to better reflect the relationship between air quality and greenhouse gas emissions; the CAC also wanted the SAB to weigh in this issue (*see below*). Additional changes included updating the formerly used term "alternative transportation," and minor editing changes.

### **Other Changes: PC and SAB**

The Planning Commission reviewed these policies at its Nov. 14, 2012, meeting. The Commission debated including greenhouse gas emissions under this section, since it was also addressed in Energy. The Commission asked staff to rework the section to focus it on pollution impacts and eliminate redundancies with Energy. Following the discussion, Staff restored and revised Policy 2. It now reflects how the development code addresses air quality.

The SAB reviewed these policies on Nov. 19, 2012. They also pointed out redundancies in this section. They requested that staff better define "transportation system management measures." This policy was intentionally written to refer to the Connected Community policy, which fully explains what the term means, without getting into detail here.

Overall, changes made since the last CAC review center on removing redundancies and resolving the GHG reference question.

### *GHG and Air Quality*

Regarding the GHG question, the SAB advocated keeping GHG in the goal as they are EPA-regulated emissions; however, they are not a source of air pollution. The Planning Commission suggested that the section focus on air pollution. The CAC will need to consider whether or not GHGs remain in this section.

To provide more explanation: Essentially, the combustion of fossil fuels (such as from motor vehicles using gasoline) causes emissions. The carbon dioxide (CO<sub>2</sub>) emissions produce greenhouse gases. State actions to reduce GHG emissions are tied to reducing the risk of global climate change and generally focus on reducing CO<sub>2</sub> emissions by less fossil fuel consumption for energy and transportation. This approach is reflected in the Energy section of the CompPlan.

Secondly, fossil fuel combustion also produces "criteria air pollutants." The EPA classifies six pollutants that are included in the National Ambient Air Quality Standards: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM), and lead (Pb). Reduced emissions of criteria air pollutants are linked directly to changes in air quality and public health effects. Four of the six pollutants are tied to motor vehicles. (This information is from : <http://www.epa.gov/statelocalclimate/state/activities/assessing-air-quality-and-public-health.html>)

EPA calculates the Air Quality Index for the five major air pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. It does not include carbon dioxide.

**Questions for the CAC:**

Proposed changes for the CAC to consider:

1. Should GHG references be removed from this section?  
Option 1: No changes; keep GHG in the section.  
Option 2: Remove mentions to GHG.
  
2. The SAB suggested adding a policy that addresses low-carbon fuels and alternative, less-polluting fuels. Policy 7.3 from Connected Community could be inserted here, with a slight revision to focus on pollution.  
Option 1: Add a new Policy 7  
7. Decrease reliance on fossil fuels and air pollution by encouraging transportation options and opportunities to provide a local energy supply for transportation that is renewable, less carbon intensive and least toxic. (Connected Community 7.3)  
Option 2: Don't add this policy.

Additional SAB Comments:

- The SAB suggested a policy that addresses vehicle idling and wood smoke.  
Response: This would not be regulated through the development code. However, Policy 7. addresses reducing air pollution associated with municipal operations; this could include idling of City vehicles. This could be considered an Action Item.
  
- Add a policy on building energy use; e.g., renewable energy.  
Response: The Energy section now addresses this through the proposed green building policies.

The CAC should review the goals and policies, the SAB recommendations above, make changes, and make a recommendation to the Planning Commission.

**NEXT STEP**

If the CAC recommends these four sets of goals and policies to the Planning Commission, the goals and policies will be part of the Community Health and Public Safety hearing this summer (part of Package 2).

**ATTACHMENTS**

- 7A: ENERGY POLICIES (both Track changes and Clean)**
- 7B: SOUND QUALITY POLICIES (both Track changes and Clean)**
- 7C: SOLID WASTE POLICIES (both Track changes and Clean)**
- 7D: AIR QUALITY POLICIES (both Track changes and Clean)**

**DRAFT ENERGY GOALS AND POLICIES**

These goals and policies combine portions of Goals 6, 11 and 13.

**Goal (11 & 13): Energy**

**Goal 11—Public Facilities and Services**

**BACKGROUND**

**Statewide Planning Goal 11: Public Facilities and Services**

*"To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."*

**Section 5 Administrative and Government Services, Energy, Communications, & Schools**

**GOALS & POLICIES**

**ENERGY SERVICES**

**GOAL**

~~A. The City shall ensure the availability of administrative and general government services and shall coordinate with efforts of others to provide schools~~ energy systems\* and communication services systems are available to all development.

**Comment [BSA1]:** Changes to this goal reflect CAC and SAB comments.

**POLICIES**

- ~~1. Ensure administrative and general government services are adequate to support the delivery of public facilities and services to the community.~~
- ~~2. Require energy and communication utilities to be provided to all development.~~
- 1. Require developers to establish, and ensure the preservation of easements necessary, to provide energy and communication services and systems.
- 2. Require new energy and communication utilities to be placed underground where practical.
- 3. implementation of. Support small-scale renewable energy projects while ensuring compatibility with surrounding uses.
- ~~5. Review all residential development proposals for potential impacts on the school system including the adequacy of existing schools and the need for new facilities.~~
- ~~6. Require safe and accessible transportation routes to schools.~~

**Comment [BSA2]:** Delete this. Already in the goal. Policies 2,3,4 say how.

**Comment [BSA3]:** The original revision proposed by the SAB was accepted by the CAC. The CAC added compatibility but did raise issues/concerns about the specific types of energy distribution originally proposed and how it would be implemented. This revision reflects the PC's comments on 11/14/12 which were similar. An associated action item explores the possibilities for implementing this policy.



## **GOAL 13- ENERGY CONSERVATION**

### **Statewide Planning Goal 13:**

*"Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based on sound economic principles."*

### ENERGY CONSERVATION AND CLIMATE CHANGE

#### GOAL:

GOAL The City shall conserve energy

B. Reduce net community energy use and carbon emissions to increase Lake Oswego's long-term affordability and resiliency.

Reduce greenhouse gas emissions and energy consumption throughout the community, the social, economic, and environmental effects of.

**Comment [BSA4]:** This goal has been revised since the last CAC meeting to restructure repetitive goals and policies. The CAC had indicated that it would add conservation to this goal to strike a compromise between the SAB's suggestions to add "energy independence" and the existing goal.  
**Question for the CAC:** Does the phrase "Reduce net community energy use" capture conservation effectively, or does it need to be called out here?

### **POLICIES**

- ~~1. Promote energy efficiency and renewable energy improvements to increase Lake Oswego's long term affordability and resiliency~~
- ~~2. Reduce the City's overall energy consumption.  
Promote the use of renewable energy sources.~~
- ~~3.1. Reduce transportation energy consumption and carbon emissions by the following: related to transportation by promoting a reduction in vehicle miles traveled through the use of alternative transportation.~~
  - ~~a. Implement transportation strategies in the Connected Community policies to reduce local greenhouse gas emissions from vehicle travel;~~
  - ~~b. Increase mass transit, bicycle and pedestrian opportunities to reduce vehicle miles traveled;~~
  - ~~c. Develop infrastructure to support renewable, less carbon-intensive and least toxic fuels;~~
  - ~~d. Ensure Employment Centers, Town Centers and Neighborhood Villages are well served by transportation options.~~
2. Adapt the transportation system to strengthen resilience to changes in climate, increases in fossil fuel prices, and economic fluctuations.
3. Encourage the community to reduce greenhouse gas emissions from consumption of materials flows (foods, goods and services) and achieve a more efficient system.
4. Improve the community's resilience to climate change impacts through well-designed, flexible and strong infrastructure.
5. Utilize full life-cycle cost analysis for new public buildings, and endeavor to achieve zero net energy and water consumption that produces no wastes or toxics.

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6. Reduce the City of Lake Oswego's carbon emissions, energy and water consumption in City facilities.

GOAL:

C. Increase energy efficiency and the use of renewable energy improvements.

1. Develop incentives to encourage new development and redevelopment projects to incorporate green building practices\* such as Leadership in Energy and Environmental Design (LEED)\* in design and construction.

~~4.2. Promote compact development and rehabilitation of existing buildings in Employment Centers, Town Centers and Neighborhood Villages and energy and water efficiencies.~~

~~6.3. Promote energy-efficient land use and circulation patterns by supporting through mixed-use development in Employment Centers, Town Centers and Neighborhood Villages that are well served by transportation options.~~

Comment [BSA5]: Moves up to Policy 3.

~~4.7. Promote energy efficiency and renewable energy use through site planning for all types of development including residential subdivisions, multi-family, commercial and industrial projects.~~

5. Promote energy and efficiency and renewable energy use in the development code for all types of development while considering compatibility with surrounding land uses; and provide flexibility to incorporate future new technologies that support energy efficiency.

~~8. Require solar orientation for subdivision and partition layout, encourage planned unit developments and clustering, encourage appropriate landscape materials to reduce solar impact in the summer, minimize winter heat loss and buffer against prevailing wind sources.~~

~~9. Protect solar access to use natural heating and lighting opportunities.~~

Comment [BSA6]: The general approach for solar is already captured more broadly in policies 4 and 5.

~~6. 10. Implement and enforce state energy codes through the building permit review process E and encourage development to achieve energy efficiencies beyond state codes through a mix of incentives, technical assistance, and education.~~

~~— Encourage the community to reduce greenhouse gas emissions from materials flows (foods, goods and services consumed in Lake Oswego).~~

~~7. Improve the resilience to climate change impacts through well designed, flexible and strong e~~

~~8. Utilize full life cycle cost analysis new public buildings, and endeavor to meet the Living Building Challenge (achieve zero net energy and water consumption, and produce no wastes or toxics).~~

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**Definition:**

**Energy system:** Energy generation, storage and delivery systems. These can be centralized (such as electricity and natural gas) or small-scale distributed energy systems, which are small, modular, decentralized, grid-connected or off-grid energy systems located in or near the place where energy is used.

**Green building:** the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. (Source: EPA)

**Action Items:**

- Assess the development code to identify barriers to implementation of small-scale renewable energy generation, storage, and delivery systems, including compatibility with surrounding uses.
- Update the Community Development Code by creating a new standard that promotes energy efficiency through a range of options, incorporating the current Solar Access Standard as one option, while addressing compatibility with surrounding land uses.
  - Options that promote energy-efficiency in development and redevelopment:
    - maximize natural heating/lighting by supporting solar access through site planning
    - maximize natural cooling by the installation of native trees and landscaping
    - allowances for placement of energy generating equipment, such as solar panels and wind turbines
    - installation of systems that collect renewable energy (cisterns for rain water, etc.)
    - construction using energy efficient plumbing and electrical systems as well as lighting, windows, and other building materials.

**Comment [BSA7]:** The Commission had a discussion on whether wind turbines are appropriate but did not resolve. This should be revisited.

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## DRAFT ENERGY GOALS AND POLICIES

These goals and policies combine portions of Goals 6, 11 and 13.

### Goal (11 & 13): Energy

#### ENERGY SERVICES

##### GOAL

A. Ensure energy systems\* and communication systems are available to all development.

**Comment [BSA8]:** Changes to this goal reflect CAC and SAB comments.

##### POLICIES

1. Require developers to establish, and ensure the preservation of easements necessary, to provide energy and communication services and systems.
2. Require new energy and communication utilities to be placed underground where practical.
3. Support small-scale renewable energy projects while ensuring compatibility with surrounding uses.

**Comment [BSA9]:** The original revision proposed by the SAB was accepted by the CAC. The CAC added compatibility but did raise issues/concerns about the specific types of energy distribution originally proposed and how it would be implemented. This revision reflects the PC's comments on 11/14/12 which were similar. An associated action item explores the possibilities for implementing this policy.

##### ENERGY CONSERVATION AND CLIMATE CHANGE GOAL:

- B. Reduce net community energy use and carbon emissions to increase Lake Oswego's long-term affordability and resiliency.

**Comment [BSA10]:** This goal has been revised since the last CAC meeting to restructure repetitive goals and policies. The CAC had indicated that it would add conservation to this goal to strike a compromise between the SAB's suggestions to add "energy independence" and the existing goal. **Question for the CAC:** Does the phrase "Reduce net community energy use" capture conservation effectively, or does it need to be called out here?

##### POLICIES

1. Reduce transportation energy consumption and carbon emissions by the following:
  - a. Implement transportation strategies in the Connected Community policies to reduce local greenhouse gas emissions from vehicle travel;
  - b. Increase mass transit, bicycle and pedestrian opportunities to reduce vehicle miles traveled;
  - c. Develop infrastructure to support renewable, less carbon-intensive and least toxic fuels;
  - d. Ensure Employment Centers, Town Centers and Neighborhood Villages are well served by transportation options.
2. Adapt the transportation system to strengthen resilience to changes in climate, increases in fossil fuel prices, and economic fluctuations.
3. Encourage the community to reduce greenhouse gas emissions from consumption of materials flows (foods, goods and services) and achieve a more efficient system.
4. Improve the community's resilience to climate change impacts through well-designed, flexible and strong infrastructure.

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5. Utilize full life-cycle cost analysis for new public buildings, and endeavor to achieve zero net energy and water consumption that produces no wastes or toxics.
6. Reduce the City of Lake Oswego's carbon emissions, energy and water consumption in City facilities.

#### ENERGY EFFICIENCY GOAL:

##### C. Increase energy efficiency and the use of renewable energy improvements.

1. Develop incentives to encourage new development and redevelopment projects to incorporate green building practices\* such as Leadership in Energy and Environmental Design (LEED)\* in design and construction.
2. Promote compact development and rehabilitation of existing buildings in Employment Centers, Town Centers and Neighborhood Villages .
3. Promote energy-efficient land use and circulation patterns by supporting mixed-use development in Employment Centers, Town Centers and Neighborhood Villages.
4. Promote energy efficiency and renewable energy use through site planning for all types of development.
5. Promote energy and efficiency and renewable energy use in the development code for all types of development while considering compatibility with surrounding land uses; and provide flexibility to incorporate future new technologies that support energy efficiency.
6. Encourage development to achieve energy efficiencies beyond state codes through a mix of incentives, technical assistance, and education.

#### Definition:

**Energy system:** Energy generation, storage and delivery systems. These can be centralized (such as electricity and natural gas) or small-scale distributed energy systems, which are small, modular, decentralized, grid-connected or off-grid energy systems located in or near the place where energy is used.

**Green building:** the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. (Source: EPA)

#### Action Items:

- Assess the development code to identify barriers to implementation of small-scale renewable energy generation, storage, and delivery systems, including compatibility with surrounding uses.

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- Update the Community Development Code by creating a new standard that promotes energy efficiency through a range of options, incorporating the current Solar Access Standard as one option, while addressing compatibility with surrounding land uses.
  - Options that promote energy-efficiency in development and redevelopment:
    - maximize natural heating/lighting by supporting solar access through site planning
    - maximize natural cooling by the installation of native trees and landscaping
    - allowances for placement of energy generating equipment, such as solar panels and wind turbines
    - installation of systems that collect renewable energy (cisterns for rain water, etc.)
    - construction using energy efficient plumbing and electrical systems as well as lighting, windows, and other building materials.

**Comment [BSA11]:** The Commission had a discussion on whether wind turbines are appropriate but did not resolve. This should be revisited.

## **DRAFT ENERGY AND ENVIRONMENT GOALS AND POLICIES**

These goals and policies combine portions of Goal 6.

### **ENVIRONMENT**

#### **Statewide Planning Goal 6: Air, Water and Land Resources Quality**

*"To maintain and improve the quality of the air, water and land resources of the state."*

*(Please note that Water Quality will be addressed in Healthy Ecosystems)*

#### **Section 4, Sound Quality**

#### **GOALS & POLICIES**

##### **GOAL**

~~Reduce~~ ~~Monitor~~ ~~Minimize the negative impacts of noise levels on dissimilar uses in Lake Oswego and~~ ~~maintain~~ and preserve the quiet character of ~~the community~~ residential neighborhoods. ~~in which people can converse, relax, play and sleep without interference from noise~~ enjoy their living environment with minimal noise intrusion

##### **POLICIES**

~~1. Protect~~ Preserve and maintain the quiet character of those areas of the community unaffected by major noise sources ~~located away from commercial and industrial sound sources.~~

**Comment [BSA1]:** Too vague; this is already stated more specifically in updated Policy 1.

~~2. Ensure~~ Consider development complies with state and local noise regulations when reviewing development requests.

**Comment [BSA2]:** Not land use – delete

~~1. Prevent~~ Preserve and maintain the quiet character of residential neighborhoods, public open spaces, natural parks and parks with natural elements ~~noise problems~~ through zoning regulations, ~~as well as~~ development and performance standards ~~and ordinances that prescribe fines and other penalties for violations.~~

~~3. Evaluate~~ 2. Develop standards for mixed-use projects and conditional uses to prevent and mitigate negative noise impacts on noise-sensitive land uses. ~~the noise potential of proposed development and separate noise sensitive and noise-producing land uses.~~

~~4. Locate, design and buffer land uses which generate noise such as major transportation facilities, industrial development and active recreation areas to protect existing and future noise sensitive land uses.~~

**Comment [BSA3]:** This is already covered in 1

~~3. Require~~ Develop performance standards, noise- ~~mitigating construction and site design~~ measures requirements for noise sensitive development that would be impacted by existing or future noise producing land uses ~~producing development~~ major public facilities in- ~~to prevent negative impacts on noise-sensitive land uses~~ proximity to residential zones.

**Comment [BSA4]:** Updated to clarify language and where this would happen.

~~Minimize noise impacts on residential neighborhoods, public open spaces, recreation and natural areas.~~

4. Minimize negative noise impacts on noise-sensitive land uses\* through design features such as buffers when improving major transportation facilities\*.

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Definitions:

Major transportation facilities\*: Freeways and major arterials, as well as facilities such as bus barns that service a transportation fleet.

Negative noise impacts: When background sound levels increase past 65 dBA (A-weighted decibel scale), disruption is increased for conversation and other human activities. Other effects include noise impacts from large transportation facilities on sleep disruption, adverse impacts on residences and other land uses sensitive to noise, such as schools, open or natural spaces, libraries and hospitals.

**Comment [BSA5]:** PC added the term 'negative' to the policies and asked for a definition.

Noise-sensitive land uses: buildings and parks where quiet is an important element of their intended purpose, residences, hospitals, hotels, schools, libraries, churches and active parks.

Potential Action Items:

- Develop and add a noise standards chart to existing noise regulations
- Develop performance standards and regulations for the Tryon Creek Wastewater Treatment Plant, including provisions on noise mitigation.
- Update existing Community Development Code noise provisions that are not clear and objective.
- Examine railroad noise mitigation or reduction measures for mixed-use development districts located adjacent to a railway.



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## **DRAFT ENERGY AND ENVIRONMENT GOALS AND POLICIES - CLEAN COPY**

### **ENVIRONMENT**

#### **Statewide Planning Goal 6: Air, Water and Land Resources Quality**

*"To maintain and improve the quality of the air, water and land resources of the state."*

*(Please note that Water Quality will be addressed in Healthy Ecosystems)*

#### **Section 4, Sound Quality**

##### **GOAL**

Minimize the negative impacts of noise on dissimilar uses and preserve the quiet character of residential neighborhoods.

##### **POLICIES**

1. Preserve and maintain the quiet character of residential neighborhoods, public open spaces, natural parks and parks with natural elements through zoning regulations as well as development and performance standards.
2. Develop standards for mixed-use projects and conditional uses to prevent and mitigate negative noise impacts on noise-sensitive land uses.
3. Develop performance standards, noise-mitigating construction and site design requirements for major public facilities to prevent negative impacts on noise-sensitive land uses.
4. Minimize negative noise impacts on noise-sensitive land uses\* through design features such as buffers when improving major transportation facilities\*.

##### Definitions:

Major transportation facilities\*: Freeways and major arterials, as well as facilities such as bus barns that service a transportation fleet.

Negative noise impacts: When background sound levels increase past 65 dBA (A-weighted decibel scale), disruption is increased for conversation and other human activities. Other effects include noise impacts from large transportation facilities on sleep disruption, adverse impacts on residences and other land uses sensitive to noise, such as schools, open or natural spaces, libraries and hospitals.

**Comment [BSA6]:** PC added the term 'negative' to the policies and asked for a definition.

Noise-sensitive land uses: buildings and parks where quiet is an important element of their intended purpose, residences, hospitals, hotels, schools, libraries, churches and active parks.

##### Potential Action Items:

- Develop and add a noise standards chart to existing noise regulations
- Develop performance standards and regulations for the Tryon Creek Wastewater Treatment Plant, including provisions on noise mitigation.
- Update existing Community Development Code noise provisions that are not clear and objective.
- Examine railroad noise mitigation or reduction measures for mixed-use development districts located adjacent to a railway.

## DRAFT SOLID WASTE MANAGEMENT and RESOURCE RECOVERY GOALS AND POLICIES

### ENVIRONMENT

#### Statewide Planning Goal 6: Air, Water and Land Resources Quality

"To maintain and improve the quality of the air, water and land resources of the state."

#### ~~Section 3, Land Resources Quality (Solid Waste Management)~~

#### GOALS & POLICIES

##### GOAL(S)

~~The City shall manage solid waste to achieve the maximum reduction of material going to landfills.~~

~~A. Reduce the community's overall consumption, amount and toxicity of solid waste.~~

~~B. Optimize recovery systems for Achieve maximum recovery of reusable and recyclable materials.~~

Comment [BSA1]: Added to address system-wide approach and GHG inventory results.

Comment [BSA2]: Optimize means to make the best use of, or carry out to maximum efficiency. This reflects the original goal as well, but the slight wording change (adding "systems") means we are going to make the best use of all of the systems available to us.

##### POLICIES

1. Implement a city-wide solid waste and materials management program that:
  - a. Follows Oregon's hierarchy for the management of solid waste: waste prevention, reuse, recycling, composting, and energy recovery, with safe disposal as the last option. ~~Reduces, reuses and recycles solid waste before to sending it to landfills;~~
  - a-b. Ensures recovered reusable and recyclable materials are put to the highest and best use\*;
  - b-c. Is cost effective, efficient, and environmentally sensitive/responsible; and,
  - d. Is consistent with regional plans, policies and state law; and,
  - e. Meets regional and State materials recovery rates and recycling requirements.
2. Ensure recycling and reuse opportunities are accessible to all households, businesses and institutions, including convenient access to recycle items not collected curbside.
3. Use education and incentives to increase participation in recycling programs, and reduce materials consumption and the associated GHG emissions.
- ~~3.4.~~ Promote solid waste recycling, reuse and disposal options by providing for the licensing and permitting of provider(s) in addition to, or part of, through franchise agreements.
- 4.5. Prevent public nuisances, health hazards and unsightliness by prohibiting the accumulation of solid waste on private property without proper containment and management.
- 5.6. Prohibit unauthorized dumping on private and public lands.

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- ~~6.7.~~ Prevent hazardous wastes from entering the waste stream through proper handling and disposal.
- ~~7.8.~~ Require ~~adequate~~ sufficiently sized, screened and enclosed space for recycling, composting, solid waste storage and compacting within industrial, commercial, mixed-use, institutional and high-~~density~~ housing developments, ~~and e~~Ensure proper access for waste hauler vehicles to these areas.
- ~~8.9.~~ ~~Zone adequate land to~~Allow ~~accommodate~~ recycling and recovery uses ~~– including transfer stations –~~ through standards and regulations. ~~E~~and ~~e~~ensure ~~adequate~~ setbacks, buffering and screening are provided to mitigate impacts on adjacent land uses.
- ~~9.10.~~ Reduce the amount of solid waste associated with Ceity government operations by:
- Utilizing recycled, resource efficient, low carbon, least toxic and durable materials in both daily operations and capital projects; and,
  - Maintaining in-house waste prevention, recycling and composting programs.
- ~~10.~~ 11. Use education, incentives and other efforts to increase the use of a) deconstruction during demolition to recover reusable building materials; and, b) recycling to reduce the amount of solid construction waste being diverted to landfills. Reduce the amount of solid waste generated by private and public construction and demolition activities and increase the recovery of reusable building materials.

#### Definitions

Highest and best use – Prioritizing end use recyclable materials to maximize resource conservation and minimize environmental and economic impacts through diversion for use in commodity markets rather than being placed on the land.

#### Action Items

Explore voluntary compliance, incentives and regulatory efforts to reduce construction debris and increase recovery, recycling and reuse of building materials.

# **DRAFT SOLID WASTE MANAGEMENT *and RESOURCE* RECOVERY GOALS AND POLICIES**

## **ENVIRONMENT**

### **Statewide Planning Goal 6: Air, Water and Land Resources Quality**

*"To maintain and improve the quality of the air, water and land resources of the state."*

### **Solid Waste Management**

#### **GOALS**

- A. Reduce the community's overall **consumption**, amount and toxicity of solid waste.  
B. **Optimize recovery systems** for reusable and recyclable materials.

**Comment [BSA3]:** Added to address system-wide approach and GHG inventory results.

**Comment [BSA4]:** Optimize means to make the best use of, or carry out to maximum efficiency. This reflects the original goal as well, but the slight wording change (adding "systems") means we are going to make the best use of all of the systems available to us.

#### **POLICIES**

1. Implement a city-wide solid waste and materials management program that:
  - a. Follows Oregon's hierarchy for the management of solid waste: waste prevention, reuse, recycling, composting, and energy recovery, with safe disposal as the last option.
  - b. Ensures recovered reusable and recyclable materials are put to the highest and best use\*;
  - c. Is cost effective, efficient and environmentally responsible;
  - d. Is consistent with regional plans, policies and state law; and
  - e. Meets regional and State materials recovery rates and recycling requirements.
2. Ensure recycling and reuse opportunities are accessible to all households, businesses and institutions, including convenient access to recycle items not collected curbside.
3. Use education and incentives to increase participation in recycling programs, and reduce materials consumption and the associated GHG emissions.
4. Promote solid waste recycling, reuse and disposal options by providing for the licensing and permitting of provider(s) through franchise agreements.
5. Prevent public nuisances, health hazards and unsightliness by prohibiting the accumulation of solid waste on private property without proper containment and management.
6. Prohibit unauthorized dumping on private and public lands.
7. Prevent hazardous wastes from entering the waste stream through proper handling and disposal.
8. Require sufficiently sized, screened and enclosed space for recycling, composting, solid waste storage and compacting within industrial, commercial, mixed-use, institutional and high-density housing developments. Ensure proper access for waste hauler vehicles to these areas.
9. Allow recycling and recovery uses – including transfer stations - through standards and regulations.

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Ensure adequate setbacks, buffering and screening are provided to mitigate impacts on adjacent land uses.

10. Reduce the amount of solid waste associated with City government operations by:
  - a. Utilizing recycled, resource efficient, low carbon, least toxic and durable materials in both daily operations and capital projects; and,
  - b. Maintaining in-house waste prevention, recycling and composting programs.
11. Use education, incentives and other efforts to increase the use of a) deconstruction during demolition to recover reusable building materials; and, b) recycling to reduce the amount of solid construction waste being diverted to landfills

#### Definitions

Highest and best use – Prioritizing end use recyclable materials to maximize resource conservation and minimize environmental and economic impacts through diversion for use in commodity markets rather than being placed on the land.

#### Action Items

Explore voluntary compliance, incentives and regulatory efforts to reduce construction debris and increase recovery, recycling and reuse of building materials.

## **DRAFT ENVIRONMENT GOALS AND POLICIES** **AIR RESOURCES QUALITY** **GOALS AND POLICIES**

### **Statewide Planning Goal 6: Air, Water and Land Resources Quality**

*“To maintain and improve the quality of the air, water and land resources of the state.”*

*(Please note that Water Quality is addressed in Surface Water Management)*

### **Section 1, Air Resources Quality**

#### **GOALS & POLICIES**

##### **GOAL**

Reduce air pollution ~~and to protect and~~ improve air quality and reduce greenhouse gas emissions in Lake Oswego and the Portland Metropolitan Area.

**Comment [BSA1]:** Question 1 for the CAC: Should this section include or remove references to GHG emissions?

##### **POLICIES**

1. Cooperate with federal, state and regional agencies to meet regulatory requirements and goals that to reduce greenhouse gas emissions and air pollution, and enhance air quality.

~~1. the air quality standards of the Federal Clean Air Act.~~

2. Mitigate the impacts on air quality from new industrial and conditional uses through design and mitigation measures.

**Comment [BSA2]:** This original Policy 2 has been added back in and revised to reflect practice through the development code.

~~2. Ensure commercial and industrial developments comply with all required state and federal air quality regulations and mitigate the impacts of air pollution through design and abatement measures.~~

3. Preserve and enhance the City's city's the urban forest\*, open space, and natural resources to sustain their positive contribution to air quality.

~~Increase the opportunity to use alternative transportation as a means to reduce air pollution by:~~

~~a. Requiring safe and comfortable pedestrian and bicycle pathways as part of all new street construction projects, where feasible;~~

~~b. Ensuring new street projects accommodate existing and future transit requirements;~~

~~c. Requiring the design of new development to be supportive of pedestrian, transit and bicycle users;~~

~~d. Requiring payment of a systems development charge to be applied to the City's pedestrian and bicycle path system;~~

~~e. Providing appropriate pedestrian and bicycle facilities as part of new park projects; and,~~

~~— Maintaining an ongoing program to build and maintain pedestrian and bicycle paths.~~

4. Implement transportation strategies to reduce air pollutants emitted from vehicle travel:

a. Increase mass transit, bicycle and pedestrian opportunities through the design of City infrastructure

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projects and development requirements, as detailed in the Connected Community Goal 2, Policy 5.

b. Support and implement regional trip reduction strategies, including employment, tourist, and recreational trip reduction programs, as detailed in Connected Community, Goal 7, Policy 1.

c. Reduce traffic congestion to lessen localized pollution impacts of automobile travel through transportation system management measures\*, as detailed in Connected Community Goal 3, Policy 5.

~~5. Encourage land use patterns which, while reducing reduce dependency on the automobile and, are also compatible with existing neighborhoods.~~

**Comment [BSA3]:** This policy was removed reflecting feedback that this original policy and the new Policy 5 were redundant; the new policy reflects the 2035 Vision.

5. Reduce locally generated vehicle trips by supporting mixed-use development\* in Employment Centers, Town Centers and Neighborhood Villages to efficiently meet daily needs and encourage local job creation.

~~6. Support and implement trip reduction strategies developed regionally, including employment, tourist, and recreational trip reduction programs.~~

**Comment [BSA4]:** This was the same as Policy 4b.

~~6-8-76.~~ Reduce air pollution and greenhouse gas emissions associated with municipal operations.

~~98. Reduce traffic congestion to lessen localized pollution impacts of automobile travel through transportation system management measures, as detailed in Connected Community Goal 3, Policy 5.~~

**Comment [BSA5]:** This was the same as policy 4c.

~~7. Reduce congestion and delay on major streets to lessen localized pollution impacts of automobile travel through methods such as signal timing, access management, intersection improvements, etc.~~

7. Decrease reliance on fossil fuels and air pollution by encouraging transportation options and opportunities to provide a local energy supply for transportation that is renewable, less carbon intensive and least toxic. (Connected Community 7.3)

**Comment [BSA6]:** Question 2 for the CAC: Include this policy here?

#### **Definitions:**

Global warming: an increase in the average temperature of the earth's atmosphere that is associated with the release of greenhouse gases. (From House Bill 3543-B, 2007)

Greenhouse gas means any gas that contributes to anthropogenic global warming including, but not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. (From House Bill 3543-B, 2007)

**Mixed Use Development:** A development consisting of more than one broad category of use (e.g., commercial, industrial, residential public use or institutional). ~~The development of a tract of land, building or structure with a variety of complimentary and integrated uses, such as, but not limited to, residential, office, retail, public or entertainment uses.~~

Urban forest: Trees and vegetation in urban and suburban areas: street trees, landscape trees and plants, and the remnants of the wild forest. This urban forest functions as an ecological unit.

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## DRAFT ENVIRONMENT GOALS AND POLICIES

### Statewide Planning Goal 6: Air, Water and Land Resources Quality

*"To maintain and improve the quality of the air, water and land resources of the state."*

*(Please note that Water Quality is addressed in Surface Water Management)*

### Air Resources Quality

#### GOALS & POLICIES

##### GOAL

Reduce air pollution to protect and improve air quality and reduce greenhouse gas emissions in Lake Oswego and the Portland Metropolitan Area.

**Comment [BSA1]:** Question 1 for the CAC: Should this section include or remove references to GHG emissions?

##### POLICIES

1. Cooperate with federal, state and regional agencies to meet regulatory requirements and goals that reduce greenhouse gas emissions and air pollution, and enhance air quality.
2. Mitigate the impacts on air quality from new industrial and conditional uses through design and mitigation measures.
3. Preserve and enhance the city's urban forest\*, open space, and natural resources to sustain their positive contribution to air quality.
4. Implement transportation strategies to reduce air pollutants emitted from vehicle travel:
  - a. Increase mass transit, bicycle and pedestrian opportunities through the design of City infrastructure projects and development requirements, as detailed in the Connected Community Goal 2, Policy 5.
  - b. Support and implement regional trip reduction strategies, including employment, tourist, and recreational trip reduction programs, as detailed in Connected Community, Goal 7, Policy 1.
  - c. Reduce traffic congestion to lessen localized pollution impacts of automobile travel through transportation system management measures\*, as detailed in Connected Community Goal 3, Policy
5. Reduce locally generated vehicle trips by supporting mixed-use development\* in Employment Centers, Town Centers and Neighborhood Villages to efficiently meet daily needs and encourage local job creation.
6. Reduce air pollution and greenhouse gas emissions associated with municipal operations.

**Comment [BSA2]:** This original Policy 2 has been added back in and revised to reflect practice through the development code.

**Comment [BSA3]:** This policy was removed reflecting feedback that this original policy and the new Policy 5 were redundant; the new policy reflects the 2035 Vision.



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7. Decrease reliance on fossil fuels and air pollution by encouraging transportation options and opportunities to provide a local energy supply for transportation that is renewable, less carbon intensive and least toxic.  
(Connected Community 7.3)

**Comment [BSA4]:** Question 2 for the CAC:  
Include this policy here?

**Definitions:**

**Greenhouse gas** means any gas that contributes to anthropogenic global warming including, but not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. (From House Bill 3543-B, 2007)

**Mixed Use Development:** A development consisting of more than one broad category of use (e.g., commercial, industrial, residential public use or institutional).

**Urban forest:** Trees and vegetation in urban and suburban areas: street trees, landscape trees and plants, and the remnants of the wild forest. This urban forest functions as an ecological unit.