Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, OR 97301-2540
(503) 373-0050
Fax (503) 378-5518
www.lcd.state.or.us

NOTICE OF ADOPTED AMENDMENT

01/29/2013

TO: Subscribers to Notice of Adopted Plan or Land Use Regulation Amendments

FROM: Plan Amendment Program Specialist

SUBJECT: City of Gresham Plan Amendment
DLCD File Number 004-12

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Wednesday, February 13, 2013

This amendment was submitted to DLCD for review prior to adoption pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

*NOTE: The Acknowledgment or Appeal Deadline is based upon the date the decision was mailed by local government. A decision may have been mailed to you on a different date than it was mailed to DLCD. As a result, your appeal deadline may be earlier than the above date specified. NO LUBA Notification to the jurisdiction of an appeal by the deadline, this Plan Amendment is acknowledged.

Cc: Lauren McGuire, City of Gresham
Gordon Howard, DLCD Urban Planning Specialist
Jennifer Donnelly, DLCD Regional Representative

<paa> YA

FORM 2 DLCD Notice of Adoption

This Form 2 must be mailed to DLCD within **20-Working Days after the Final Ordinance is signed** by the public Official Designated by the jurisdiction and all other requirements of ORS 197.615 and OAR 660-018-000

DATE STAMP

☐ In person ☐ electronic ☐ mailed

DEPT OF

JAN 24 2013

LAND CONSERVATION AND DEVELOPMENT

For Office Use Only

Jurisdiction: **City of Gresham**

Local file number: **CPA 11-023**

Date of Adoption: **1/15/2013**

Date Mailed: **1/23/2013**

Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? ☒ Yes ☐ No Date: 8/20/2012

☒ Comprehensive Plan Text Amendment

☐ Comprehensive Plan Map Amendment

☐ Land Use Regulation Amendment

☐ Zoning Map Amendment

☐ New Land Use Regulation

☐ Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Adopted new Findings related to Renewable Energy Systems; updated Policies by creating new Goals, Policies and Action Measures to encourage renewable energy development in appropriate locations while protecting the natural environment.

Does the Adoption differ from proposal? Please select one

None

Plan Map Changed from: **NA** to:

Zone Map Changed from: **NA** to:

Location: Acres Involved:

Specify Density: Previous: New:

Applicable statewide planning goals:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
☒	☒	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Was an Exception Adopted? ☐ YES ☒ NO

Did DLCD receive a Notice of Proposed Amendment...

35-days prior to first evidentiary hearing? ☒ **Yes** ☐ **No**

If no, do the statewide planning goals apply? ☐ **Yes** ☐ **No**

If no, did Emergency Circumstances require immediate adoption? ☐ **Yes** ☐ **No**

DLCD file No. 004-12 (19464) [17336]

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

Metro

Local Contact: **Lauren McGuire** Phone: **(503) 618-2108** Extension:

Address: **1333 NW Eastman Parkway** Fax Number: - -

City: **Gresham** Zip: **97030-** E-mail Address:

Lauren.McGuire@GreshamOregon.gov

ADOPTION SUBMITTAL REQUIREMENTS

This Form 2 must be received by DLCD no later than 20 working days after the ordinance has been signed by the public official designated by the jurisdiction to sign the approved ordinance(s)

per ORS 197.615 and OAR Chapter 660, Division 18

1. This Form 2 must be submitted by local jurisdictions only (not by applicant).
2. When submitting the adopted amendment, please print a completed copy of Form 2 on light **green paper if available.**
3. Send this Form 2 and **one complete paper copy** (documents and maps) of the adopted amendment to the address below.
4. Submittal of this Notice of Adoption must include the final signed ordinance(s), all supporting finding(s), exhibit(s) and any other supplementary information (ORS 197.615).
5. Deadline to appeals to LUBA is calculated **twenty-one (21) days** from the receipt (postmark date) by DLCD of the adoption (ORS 197.830 to 197.845).
6. In addition to sending the Form 2 - Notice of Adoption to DLCD, please also remember to notify persons who participated in the local hearing and requested notice of the final decision. (ORS 197.615).
7. Submit **one complete paper copy** via United States Postal Service, Common Carrier or Hand Carried to the DLCD Salem Office and stamped with the incoming date stamp.
8. Please mail the adopted amendment packet to:

ATTENTION: PLAN AMENDMENT SPECIALIST
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT
635 CAPITOL STREET NE, SUITE 150
SALEM, OREGON 97301-2540

9. **Need More Copies?** Please print forms on **8½ -1/2x11 green paper only if available.** If you have any questions or would like assistance, please contact your DLCD regional representative or contact the DLCD Salem Office at (503) 373-0050 x238 or e-mail **plan.amendments@state.or.us**.

CITY OF GRESHAM
Urban Design & Planning
1333 N.W. Eastman Parkway
Gresham, Oregon 97030

CERTIFICATE OF MAILING

City of Gresham – Renewable Energy Findings & Policies
CPA 11-023

FILE NUMBER / PROJECT

I, Tammy J. Richardson

HEREBY CERTIFY THAT I HAVE MAILED THE ATTACHED NOTICE OF DECISION TO THE FOLLOWING PARTIES:

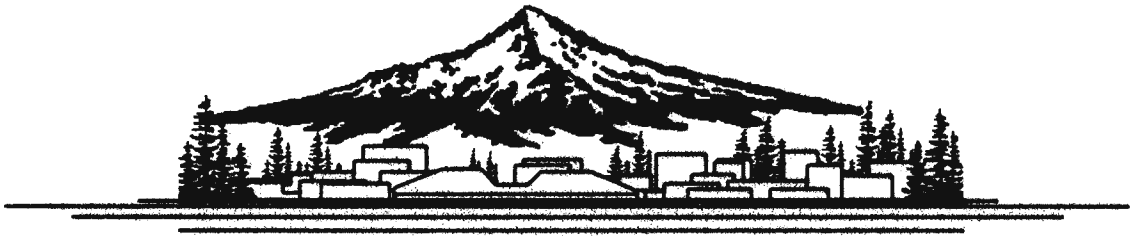
DLCD
Plan Amendment Specialist
635 Capitol St. NE #150
Salem, OR 97301-2540

Metro
Growth Management
600 NE Grand
Portland OR 97232-2736

Roxanne Ross
3075 SW 15th Ct.
Gresham OR 97080

Tammy J. Richardson
Signature

Jan. 23, 2013
Date



CITY OF GRESHAM
Urban Design & Planning Office
1333 NW Eastman Parkway
Gresham, Oregon 97030

NOTICE OF FINAL DECISION

January 23, 2013

On January 15, 2013, the Gresham City Council Approved the application of **City of Gresham (Council Order No. 640)** amending Volumes 1 and 2 of the Gresham Community Development Plan regarding **Renewable Energy**.

The record for this project is maintained at Gresham City Hall, City of Gresham **File No. CPA 11-023** and may be reviewed at the City's Urban Design & Planning office Monday through Friday, 8:00 AM to 5:00 PM.

An appeal of this decision may be filed with the Land Use Board of Appeals (LUBA) within 21 days of this Notice of Decision. LUBA has the jurisdiction to review all governmental land use decisions. An appeal of a land use decision must conform to the procedures and requirements of LUBA. They may be contacted in Salem at:

LUBA
550 Capitol Street, NE – Suite #235
Salem, Oregon 97301-2552
(503) 373-1265

BEFORE THE CITY COUNCIL OF THE

CITY OF GRESHAM

IN THE MATTER OF AMENDMENTS TO VOLUME 1, FINDINGS AND VOLUME 2, POLICIES OF THE GRESHAM COMMUNITY DEVELOPMENT PLAN, REGARDING THE RENEWABLE ENERGY STANDARDS PROJECT	)))))	Order No. 640 CPA 11-023

On December 4, 2012, the City Council held a public hearing to take testimony on amendments to Volume 1, Findings, and Volume 2, Policies of the Gresham Community Development Plan as it relates to Renewable Energy Standards.

The hearing was conducted under Type IV procedures. Mayor Shane T. Bemis presided at the hearing.

The Council closed the public hearing at the December 4, 2012 meeting, and a final decision was made at the January 15, 2013 meeting.

A permanent record of this proceeding is to be kept on file in the Gresham City Hall, along with the original of the Order.

The Council orders that these amendments are approved, adopts the standards, findings and conclusions as stated in the attached Planning Commission Recommendation Order and staff reports.

Dated: January 15, 2013

Erik Kvarsten
City Manager

Shane T. Bemis
Mayor

BEFORE THE PLANNING COMMISSION OF THE

CITY OF GRESHAM

TYPE IV RECOMMENDATION ORDER CPA 11-023

A Type IV Legislative Public Hearing was held on October 8, 2012 to consider proposed amendments to Volume 1 (Findings) and Volume 2 (Policies) of the Gresham Community Development Plan regarding **Renewable Energy**.

The Planning Commission closed the public hearing at the October 8, 2012 meeting, and a final recommendation was made at the October 8, 2012 meeting.

William Bailey, Chair, presided at the hearing.

A permanent record of this proceeding is to be kept on file in the Gresham City Hall, along with the original of this Type IV Recommendation Order.

The Planning Commission recommends **Adoption** of the proposed Development Code amendments to the City Council based on the findings, conclusions and recommendations of the October 8, 2012 staff report with the following changes:

No Changes

William J Bailey

Chairperson

10/8/2012

Date

MEMORANDUM

URBAN DESIGN & PLANNING

STAFF REPORT
TYPE IV HEARING - COMPREHENSIVE PLAN AMENDMENT
RENEWABLE ENERGY PROJECT

To:	Gresham Planning Commission
From:	Jonathan Harker, Urban Design & Planning Director Lauren McGuire, Senior Landscape Architect
Hearing Date:	October 8, 2012
Report Date:	September 29, 2012
File:	CPA 11-023
Proposal:	To adopt Comprehensive Plan amendments to Volume 1 (Findings) and Volume 2 (Policies) of the Community Development Plan with: 1) Text amendments which create new Renewable Energy Findings. (Volume 1) 2) Text amendments which create new Goals, Policies, and Action Measures for renewable energy systems. (Volume 2)
Exhibits:	'A' – Proposed Text Amendments
Recommendation:	Staff recommends **adoption** of the proposed Comprehensive Plan amendments.

SECTION I
EXECUTIVE SUMMARY

Background

The Renewable Energy Project is part of the 2012 Council Work Plan. Its purpose is to determine where and how existing and future renewable energy systems should be allowed in Gresham. Renewable energy systems include solar, wind, biomass, geothermal, micro-hydro energy systems, and electric vehicle charging infrastructure. The project is:

- Encouraging renewable energy development in appropriate locations while protecting the natural environment, the social and economic quality of life, and the design of the built environment;
- Updating the Community Development Plan goals, policies and Code standards with:
  - Updated findings, goals, policies and action measures that set City direction;
  - New Development Code standards including definitions and standards for size, location, scale, appearance and effects such that energy use, generation, distribution and storage will enhance community health, safety, quality of life, environmental quality and the quality of the built environment in Gresham while avoiding adverse impacts;
  - Enhanced sustainability including reducing greenhouse gas emissions, promoting green development and renewable energy jobs and generating power locally for a stable and equitable economy;
- Creating a clear review process and approval path; and
- Consulting stakeholders and citizens during the project process and outcomes.

The project began in January 2011. The Renewable Energy Project is part of the Development Code Improvement Project (DCIP) - a multi-year project with the goal of enhancing the effectiveness and clarity of the Development Code which is part of the City's Comprehensive Plan. The planning process included:

- Conducting issues research and analysis;
- Developing alternative approaches to those issues; and
- Selecting the preferred approach.

This project is following a two-step hearing process. This hearing focuses on the new findings and policies for renewable energy. The second hearing will propose new Development Code language that is consistent with the new goals and policies.

This process has included extensive public involvement and incorporated two Council policy meetings, four Planning Commission work sessions, two Natural Resource and Sustainability Committee work sessions, two Design Commission work sessions, four Stakeholder Group meetings and three Community Forums.

Proposed Comprehensive Plan Amendment Overview

Text changes to the Community Development Plan are proposed. The format of the attached Exhibit 'A' is a ~~strikeout~~/underline version with comments inserted into the document to help explain the rationale for each proposed change. The overview provided below summarizes the changes.

Volume 1 - Findings

The existing Volume 1 Energy Findings in Sections 2.380, 2.381.1-2.381.7, 2.382 and 3.900, meant to describe the available energy systems and their corresponding technologies, are over 30 years old. The proposed Findings completely replace these outdated Findings.

The Findings, as the factual basis for the energy goals and policies, support the project purpose to facilitate the implementation of renewable energy systems with clear rules that also protect the public and the environment, avoiding adverse visual, social and environmental impacts.

The Findings describe the follc ,g prominent renewable energy systems:

- Solar Power which can be used to generate electricity or heat water;
- Wind Energy which includes large-scale wind turbines often found in agricultural or industrial areas and small-scale applications sometimes found in residential or commercial areas;
- Biomass Energy which involves using the solar energy stored in plant materials. This occurs through the burning of plant material, creating biogas such as methane or making biofuels such as ethanol from wood, corn or grasses, landfill gas, or garbage;
- Geothermal Energy which involves using the relatively constant temperatures of the earth underground to heat or cool buildings;
- Micro-hydropower Energy which involves smaller scale hydro-electric power (from water) that typically produces up to 100kW of power; and
- Electric Vehicle Charging Stations which provide opportunities for people who drive electric vehicles to charge their vehicles on location.

Volume 2 - Policies

Text changes to Sections 10.222 Energy Sources and 10.223 Energy Conservation of Volume 2 are proposed which include goals, policies and action measures. These provide direction for the City. Briefly defined, these are:

- Goal: A general statement indicating a desired end or the direction the City will follow to achieve that end.
- Policy: A statement identifying Gresham's position and a definitive course of action. Policies are more specific than goals. They often identify the City's position in regard to implementing goals.
- Action Measure: A statement that outlines a specific City project or standards, which if executed, would implement goals and policies.

Goals: There are three new goals that:

- Encourage incorporation of renewable energy systems;
- Prioritize energy related jobs and innovation; and
- Promote a healthy, quality environment with a stable economy that includes affordable energy.

Policies: The amendments establish seven new policies that:

- Ensure City programs and codes promote responsible energy use;
- Remove barriers to new renewable energy systems;
- Apply appropriate regulation levels for renewable energy systems;
- Incorporate renewable energy into City facilities;
- Encourage public and private use of renewable energy;
- Promote renewable energy jobs; and
- Ensure equal distribution of energy benefits.

Action Measures: The three new action measures help to implement the goals and policies as follows:

- New Development Code language which will be presented in 2013 by allowing the right systems in the right locations;
- Implementation of the City's Internal Operations & Facilities Sustainability Plan; and
- Promotional outreach measures.

Staff Report Organization

- Section II and III identify those current Development Code procedures and policies that apply to the proposal.
- Section IV identifies the applicable Metro Urban Growth Functional Plan (UGMFP) titles that apply to the proposal.
- Section V identifies the applicable Oregon Statewide Planning Goals applicable to this proposal.

- Section VI contains findings of fact that indicate how the proposal is consistent with Sections II through V:
    - Subsection A is findings of fact for the Community Development Code procedures.
    - Subsection B is findings of fact for the Community Development Plan policies.
    - Subsection C is findings of fact for the Metro Functional Plan (UGMFP) titles.
    - Subsection D is findings of fact for the Statewide Planning Goals.
- Sections VII and VIII summarize staff conclusions and recommendations.
- Exhibit 'A' includes proposed amendments to Volume 1 (Findings) and Volume 2 (Policies) as well as commentary. The commentary provides additional findings for this proposal.

SECTION II
APPLICABLE COMMUNITY DEVELOPMENT CODE PROCEDURES

Section 11.0201	Initiation and Classifications of Application
Section 11.0203	Classification of Applications
Section 11.0204	Review Authorities
Section 11.0600	Type IV Legislative Procedures
Section 11.1000	Public Hearings

SECTION III
APPLICABLE COMMUNITY DEVELOPMENT PLAN GOALS & POLICIES

Section 10.014	Land Use Planning, Land Use Policies and Regulations and Community Design
Section 10.100	Citizen Involvement

SECTION IV
APPLICABLE METRO URBAN GROWTH FUNCTIONAL PLAN TITLES

Title 8	Compliance Procedures

SECTION V
APPLICABLE STATEWIDE PLANNING GOALS

Goal 1	Citizen Involvement
Goal 2	Land Use Planning
Goal 13	Energy Conservation

SECTION VI
FINDINGS OF FACT

The proposed Community Development Plan amendments attached as Exhibit 'A' are consistent with all applicable procedures, goals and policies of the Community Development Plan, applicable titles of the Metro Urban Growth Management Functional Plan and the applicable Statewide Planning Goals as indicated in the following findings.

A. Community Development Code Procedures

1. ***Section 11.0201 – Initiation.*** This section provides that only the City Council may initiate a Type IV legislative application to amend the text of the Gresham Community Development Plan. This project was initiated by the City Council when they originally adopted the 2011 Council Work Plan which included the Renewable Energy project. The Council continued the project with the adoption of the 2012 Council Work Plan on January 3, 2012.

2. *Section 11.0203 and 11.0204 – Classification of Applications and Review Authority.* These sections provide that Type IV procedures are legislative and typically involve the adoption, implementation or amendment of policy by ordinance and that it generally applies to a relatively large geographic area containing many property owners. They also provide that the Planning Commission provide a recommendation on the amendments and the City Council be the decision-making authority. This project meets those conditions, is being processed under the Type IV procedures and will be heard by the City Council.

3. *Section 11.0600 - Type IV Legislative Procedures.* As a Type IV Comprehensive Plan Amendment, this section requires a submittal to the Department of Land Conservation and Development (DLCD) at least 45 days prior to the Planning Commission hearing. This submittal was made on August 20, 2012, which is 49 days prior to the Planning Commission hearing date of October 8, 2012 and therefore meets the minimum 45 day requirement. This section also requires that hearings be scheduled, a notice published in a newspaper of general circulation in the city and a copy of the decision be mailed to those required to receive such notice. Required notice of public hearing for these proposed text amendments has been published in the *Gresham Outlook* as required by this section.

This section also requires that the Planning Commission hold a public hearing and make a recommendation to the Council for an amendment to the Community Development Plan. The Council shall hold another public hearing and make a final decision. Interested persons may present evidence and testimony relevant to the proposal. The Planning Commission will make a recommendation and the Council will make a decision that will be based on findings of fact contained in this report and in the hearings record, and a decision will be sent to those who participated in the hearings. A decision shall be made accompanied by findings and an order.

4. *Section 11.1000 - Public Hearings.* This section outlines a hearing process and procedures where both the Planning Commission and the City Council will consider this proposal at public hearings.

2. Community Development Plan Goals and Policies (Volume 2)

This section identifies the applicable Community Development Plan goals and policies. The text (*italicized*) of the policy is followed by corresponding findings and conclusions.

1. General Goals & Policies

Section 10.014 Land Use Policies and Regulations

Goal: Maintain an up-to-date Comprehensive Plan and implement regulations as the legislative foundation of Gresham's land use program.

Policy 1: The City's land use program will be consistent with state and regional requirements but also shall serve the best interests of Gresham.

Policy 2: The City's land use regulations, actions and related plans shall be consistent with and implement the Comprehensive Plan.

Policy 20: The City shall periodically review and update the Comprehensive Plan text and the Community Development Plan Map(s) to ensure that they remain current and responsive to community needs; provide reliable information and dependable, factually based policy direction; and conform to applicable state law, administrative rules, and regional requirements.

Policy 21: Council may, upon finding it is in the overall public interest, initiate legislative processes to change the Comprehensive Plan text and Community Development Plan Map(s) and Development Code.

Findings:

The goal and general Policies establish the City's intent to use its Comprehensive Plan (Gresham Community Development Plan [GCDP]) as the basis for appropriate planning processes and resulting land use plans.

The proposed amendments are part of the Renewable Energy project, which was requested by the Gresham City Council initially in 2011 to encourage renewable energy development in appropriate locations while protecting the natural and built environment. The City Council endorsed the project by adopting it in its 2011 and 2012 Council Work Plans.

The proposed Policy amendments update the renewable energy goal and policies to provide the desired direction relative to the current energy technologies. The goals and policies were vetted through an extensive public participation process including many public meetings with the Planning Commission, City Council, Natural Resource and Sustainability Committee, residents, property owners, business owners and other interested parties. The project considers compatibility and protects residents' life and property from any harmful conditions related to renewable energy systems. The proposal is consistent with state and regional provisions and is intended to meet the interests of the public for energy independence and livability.

Conclusions:

Policies 1, 2 and 20 are addressed because the proposed amendments are consistent with state and regional regulations and are intended to meet and protect the interests of the citizens of Gresham. The previous Renewable Energy Findings were over 30 years old and are replaced by the current findings which reflect the most recent research and information. The updates are consistent with state and regional requirements.

Policy 21 is addressed because the proposed amendments were initiated with Council's adoption of the Council Work Plan in 2011 and then continued with adoption of the 2012 Council Work Plan.
The proposal is consistent with the applicable general goals and policies listed in this section.

2. Citizen Involvement Goals & Policies

Section 10.100 - Citizen Involvement

Goal: The City shall provide opportunities for citizens to participate in all phases of the planning process by coordinating citizen involvement functions; effectively communicating information; and facilitating opportunities for input.

Policy 1: The City shall ensure the opportunity for citizen participation and input when preparing and revising policies, plans and implementing regulations.

Policy 2: The City shall consider the interests of the entire community and the goals and policies of the Comprehensive Plan when making decisions.

Policy 5: The City shall keep citizens informed of issues confronting the City.

Policy 6: The City shall ensure that technical information necessary to make policy decisions is readily available.

Policy 7: The City shall facilitate involvement of citizens in the planning process, including data collection, plan preparation, adoption, implementation, evaluation and revision.

Policy 10: The City shall ensure the opportunity for the public to be involved in all phases of planning projects and issues.

Findings:

The public involvement Goals and Policies establish the City's intent that its citizens have meaningful opportunities throughout a planning project to be informed and to affect proposals. The Renewable Energy project began in 2011 and continued on the 2012 Council Work Plan. A Public Participation Plan was developed at the onset of the project and implemented throughout the project.

The project has actively engaged the public in the planning process, including three community forums, two Council policy meetings, four Planning Commission work sessions, two Natural Resource and Sustainability Committee work sessions, multiple Design Commission work sessions, and four Stakeholder Group meetings.

The City's Comprehensive Planning project web page has been kept up to date with schedules and drafts of the proposal. Public notice was also provided to the *Gresham Outlook* and notice was also sent to the State Department of Land and Conservation Development (DLCD) and Metro.
The outreach included:

- Planning Commission work sessions on 6/13/11, 1/23/12, 3/12/12 and 5/14/12.
- City Council work sessions on 7/12/11 and 6/12/12.
- Community Forums on 5/2/11, 12/14/11 and 3/8/12.
- Design Commission meetings on 1/18/12 and 4/18/12.
- Natural Resources and Sustainability Committee meetings on 6/14/11 and 2/21/12.
- Developer's Group presentation on 1/26/12.
- Technical Advisory Stakeholders Group meetings on 12/13/11 and 4/5/12.
- City staff prepared project documents and posted them on a project web page on the City's website. Interested parties were invited to evaluate the documents and propose revisions and new ideas.
- Information on the project has been made available at other Comprehensive Planning workshops.
- A LISTSERV email tool has been used to alert interested parties when new materials are available on the website and when upcoming meetings will occur.
- Project information has been available at the Urban Design & Planning office.

Conclusion:

The Citizen Involvement Goal and related policies were addressed through public outreach efforts. This included community forums, email notices, and presentations at the Planning Commission, other city committees, and the City Council.

The proposal is consistent with the applicable Citizen Involvement Goals and Policies.

C. Metro Urban Growth Management Functional Plan (UGMFP)

Title 8 Compliance Procedures

Findings:

Section 3.07.820 Compliance Review by the Chief Operating Officer requires that, at least 45 days prior to the first evidentiary hearing on an amendment to a Comprehensive Plan or land use regulation, the City

submits the proposed amendments to Metro. Metro may review the amendments and can request that the City provide an analysis of compliance of the amendment with the Functional Plan.

The City submitted the proposed amendments to both DLCD and Metro on August 20, 2012, which was at least 45 days prior to the first evidentiary hearing of October 8, 2012. Metro has submitted no comments or request for an analysis.

Conclusion:

The City has submitted the proposed amendments to Metro at least 45 days prior to the first evidentiary hearing and Metro has made no comments or request about the proposal. The proposal is consistent with Title 8.

D. Oregon Statewide Planning Goals

Findings

Statewide Planning Goal 1 requires that cities "provide the opportunity for citizens to be involved in all phases of the planning process."

Statewide Planning Goal 2 requires cities to "establish a land use planning process and policy framework as a basis for all decision and actions related to use of land and to assure an adequate factual base for such decisions and actions. This shall result in land use plans and implementation measures that are consistent with the land use plans."

A thorough public input process was conducted in the creation of the proposed amendments, which allowed the public to be involved at each stage of the amendment's development. Three community forums were held with the express purpose of educating the public about the project and to gain input. Thirteen public meetings were held.

The City has a state-acknowledged Comprehensive Plan. Section VI of this report describes findings and conclusions that the proposed Comprehensive Plan Amendments are consistent with applicable procedures and applicable goals and policies of the City's Comprehensive Plan.

Conclusion

The proposed amendments comply with Statewide Planning Goals 1 and 2.

Statewide Planning Goal 13 requires cities to "conserve energy".

Findings:

Goal 13 ensures that land and uses developed on the land are managed and controlled to maximize the conservation of all forms of energy. Allocation of land and uses is intended to minimize the depletion of non-renewable sources of energy. Plans are to be directed toward energy conservation with consideration of the existing and potential capacity of renewable energy sources to yield useful energy output such as sunshine, wind, municipal, forest and farm waste, geothermal heat, and water. The amendments to Volume I Findings update the factual information on the current renewable energy technologies of solar, wind, biomass, geothermal and micro-hydro systems and also discusses electric vehicle charging systems. The new renewable energy policies provide a direction for the city which includes encouraging the right renewable energy system in the right location.

Conclusion:

Goal 13 is met by providing goals and policies that prioritize the incorporation of renewable energy systems to the maximum extent possible and encourage public and private use of those systems which help sustain and enhance community health, safety, quality of life, environmental quality and the quality of the built environment.

SECTION VII
CONCLUSION

The proposed Comprehensive Plan amendments attached as Exhibit 'A' are consistent with applicable Development Code procedures of the Community Development Plan; the applicable Community Development Plan Goals & Policies; the applicable Metro Urban Growth Functional Plan Titles; and applicable as indicated by findings contained herein or by the applicable Statewide Planning Goals referenced in Section VI of this report.

SECTION VIII
RECOMMENDATION

Staff recommends **adoption** of the proposed Comprehensive Plan Volume 1 Findings and Volume 2 Policies amendments as contained in the attached Exhibit 'A.'

End of Staff Report

Proposed new language is double-underlined;
Proposed deleted language is ~~stricken~~.

CB 12-12

ORDINANCE NO. 1724

AMENDMENTS TO VOLUME 1, FINDINGS AND VOLUME 2, POLICIES OF THE GRESHAM COMMUNITY DEVELOPMENT PLAN, REGARDING THE RENEWABLE ENERGY STANDARDS PROJECT

THE CITY OF GRESHAM DOES ORDAIN AS FOLLOWS:

Section 1. Volume 1, FINDINGS is to be amended by deleting Sections 2.380, 2.381, 2.382 and 2.383 and Appendices 4, 5, 6 and 7 and replacing it with the language below:

Volume 1 FINDINGS

Section 2.380 ENERGY RESOURCES

Currently, most energy used in Gresham comes from outside the city. This includes electricity generated from solar, wind, hydropower and fossil fuels such as coal. It also includes fuel oil, natural gas and wood fuels. Gresham has potential for renewable energy within its boundaries. Renewable energy sources include solar, wind, biomass, geothermal and micro-hydro energy. Energy technology continues to advance, so additional opportunities could develop in the future.

Energy generation within Gresham provides an opportunity to locally produce energy, which could reduce dependence on imported energy and reduce energy costs for citizens in the long term. The technologies currently available in Gresham are mostly renewable energy technologies that enhance sustainability and help reduce greenhouse gas emissions that have been linked to climate change.[1]

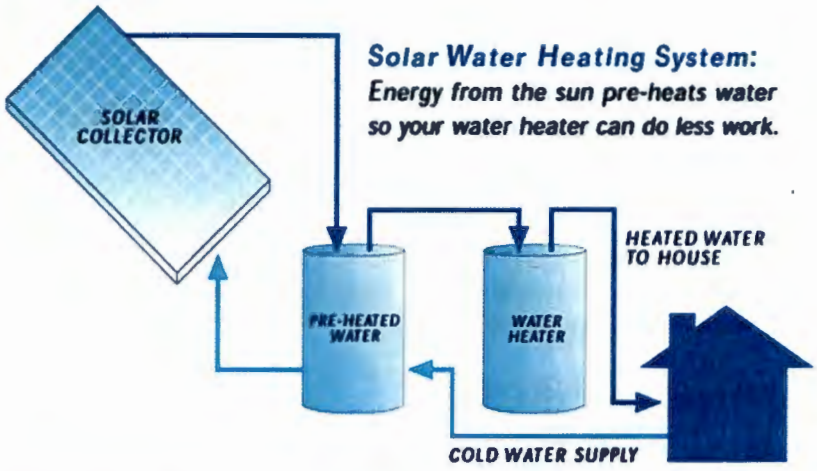
2.381.1 Solar Power

Solar power is the most widely used form of renewable energy. There are two kinds of active solar energy systems for deriving energy from the sun - solar hot water and solar photovoltaic systems.

A solar hot water system typically helps heat the water that goes into a water heating system, which reduces the amount of electricity or gas that system consumes. A photovoltaic system produces electricity for use in the home/business or for sale back to the electric utility or for energy storage in batteries. Solar collectors work best on south facing roofs, though east-west oriented roofs may be suitable as well. There are also ground-mounted systems for situations where roof slopes and building orientation are not optimum or where there is significant shading by adjacent buildings, etc.

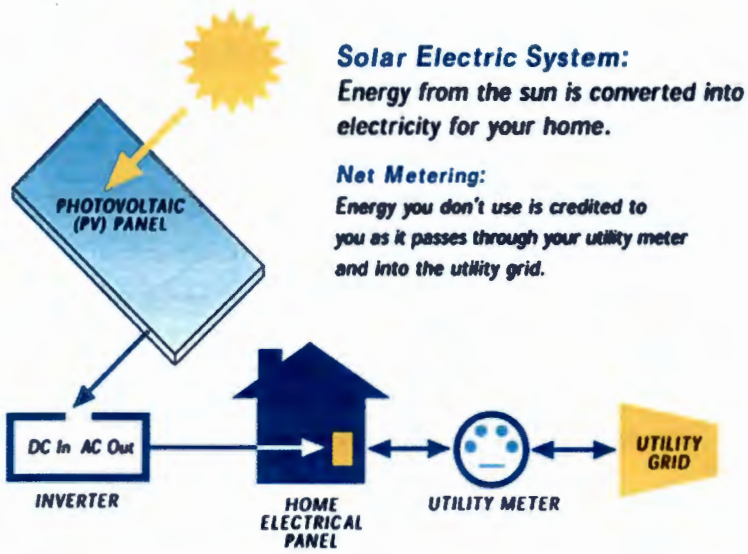
Heating water is one of the largest energy consumers in a home. Solar water heating systems can reduce the amount of energy used to heat water in the average home by about 60 percent. Typically, cold water is warmed by the sun, and that water drains down to a pre-heated water tank and then on to the home's hot water tank, which reduces the amount of energy needed to get the water up to the desired temperature.

[1] Intergovernmental Panel on Climate Change



*From: Energy Trust of Oregon

Photovoltaic panels convert sunlight directly into electricity (electrons). This is made possible by the material inside the collector (semiconductors usually made of silicon) which is organized into cells that can conduct electricity. Electrons in the semiconductor material are energized by sunlight and are driven toward the surface of each cell where they are collected and transmitted elsewhere through wiring. In the U.S., electrical devices and utility grids use electricity in the form of alternating current (AC). Because photovoltaic panels create direct current (DC), it must first be directed to an inverter box, usually mounted on the side of the house, where it can be converted to AC and then synchronized with the utility-supplied electricity. From the inverter, it goes to the electrical panel (circuit breaker box) and then through the house wiring. Any surplus power goes to the utility meter where it can be recorded for utility bill deductions and then to the utility grid, which is referred to as "net metering" or feed-in tariff. The surplus power can also go to battery storage for future use.



*From: Energy Trust of Oregon

Electricity produced by photovoltaic panels is expressed in watts and kilowatt hours. A watt is a measurement of electricity and a kilowatt hour is the amount of electricity that is transmitted at a constant rate of 1,000 watts per hour. A kilowatt hour is the unit that is used by utilities to determine the amount of power used by a home or business for billing purposes.

The average four-person household in the Portland area uses about 12,000 kilowatt (kW) hours annually.[2] Typically in western Oregon, a 1 kilowatt solar array measures an estimated 100 square feet and can generate about 1,000 kilowatt hours annually.[3] A recently installed local residential system produced approximately 4,500 kilowatt hours with only 270 square feet of high efficiency panel area and saved $400 per year in energy costs in 2012.

Solar panels also are used for commercial, industrial and institutional uses, as well as to power auxiliary uses such as irrigation systems, restrooms, signs and traffic control devices.

A recent technological advance in solar electric power is the development of thin plastic-like film that has embedded metal semiconductors. These conduct electricity when exposed to sunlight. Power output and cost promises to be superior to current photovoltaic panels. The film can be manufactured by printing it out in large sheets which can then be cut into desired sizes and shapes. This material will be able to be seamlessly integrated into exterior building materials such as roofing, siding and windows.

The amount of solar radiation reaching the earth's surface is dependent on the condition of the sky, the angle of the sun's rays above the horizon and the duration of the day. Sky conditions refer to the extent of cloud cover, the density of the air and the components of the air (i.e. pollutants). The altitude of the sun above the horizon is dependent on the latitude north or south of the equator. The farther the location is from the equator, the less intense are the rays of the sun. The length of daylight also affects the amount of solar radiation reaching the earth's surface, so more solar radiation reaches the surface during the summer.

The Portland area receives an average of about 68 clear days between sunrise and sunset each year. This is equivalent to 20 percent of the days in a year, and more than half of these days occur during the late summer months. Adding in partly cloudy days, the area averages more than 140 days of clear and partly cloudy skies each year, according to National Weather Service data.

The available amount of sunlight in Gresham is adequate to make solar a part of electrical generation in the Gresham area, partly because surplus electricity generated during the summer can be sold back to the utility via net metering or feed-in-tariff.

Potential issues with solar installations include:

- How to preserve solar access in the future.
- How to balance goals of adding tree canopy and increasing solar energy productions.
- How to achieve desired densities and building heights, visual appearances, locations, and setbacks and accommodate solar facilities.

Additionally, a new State law requires that solar panels be an allowed use for residential and commercial structures if they do not increase the structure's footprint, do not exceed the roof height, and the panels are parallel to the roof slope and not more than 18 inches off the roof. Standards cannot be created that require extensive site surveys or restrictions for these types of renewable energy systems.

[2] PGE website, Renewables & Efficiency, Go Solar
[3] Oregon Dept. of Energy, "Oregon Solar Electric Guide"

Examples of Solar Installations

Roof-top solar panels on a single-family residence.

Integrated solar wall panels on a townhouse.

Flat roof solar film on an industrial building.

Stand-alone solar panels in an array along a freeway at the intersection of I-5 and I-205.

2.381.2 Wind Power

Wind turbines convert wind energy into electricity and are the second most widely used type of renewable energy system. Although wind power accounts for only 1.5 percent of worldwide electricity production in 2012, it is growing rapidly, having more than doubled production since 2005.[4]

A wind turbine works by having the wind turn its blades or rotor, which spins a shaft that connects to a generator to make electricity. The higher and more constant the wind speed, the more electricity is produced, up to the maximum output of the turbine. Wind turbines need to be attached atop a pole, tower or building for support and to access the wind. Because wind speeds increase (and turbulence and interference decreases) with height, turbine efficiency generally increases with tower height. In general, the larger the rotor, the larger the amount of wind caught and electricity produced. Wind speed can be highly variable, especially in urban environments where buildings and other structures can deflect wind. Power production is measured in watts and kilowatt hours. An inverter is necessary to convert direct current into alternating current.

Wind turbines come in two basic scales:

- Large turbines: These are used mainly by utilities in wind farms and transmit electricity into the power grid. They consist of dozens and sometimes hundreds of large turbines that can generate up to several megawatts (million watts) each. Such farms can occupy hundreds of acres or square miles.

[4] World Wind Energy Association

They are typically located in wind-swept plains, deserts, mountain passes and along seashores where there is a stronger, more constant wind speed.

An example of a wind farm is Portland General Electric's Biglow Canyon Wind Farm in eastern Oregon (Sherman County).[5] When completed, it will consist of 217 wind turbines that will generate 450 megawatts or enough electricity to power 125,000 homes. Each turbine weighs at least 246 tons, has a 300-foot diameter rotor and is mounted on a 400-foot tower.

- Small turbines: These are wind turbines designed for individual residential or commercial applications where most of the power will be consumed on-site. They generate less than 100 kilowatts. Most home systems generate between 1 kilowatt and 10 kilowatts. They typically have tower heights of 60 feet to 100 feet and rotors up to 20 feet in diameter. In recent years, small turbine systems have been developed that use vertically oriented rotors and generators rather than conventional horizontally oriented systems using rotor blades. The rotor used to capture the wind is a cylinder shaped device that is narrower than a blade type rotor. Turbines made by Helix Wind and Oregon Wind are examples.

Many locations in Gresham have 9 miles per hour or 10 miles per hour average wind speeds, which are considered marginal for small-scale wind turbines with current technology.[6] The wind speed at a given site usually varies frequently in direction, and its speed may change rapidly under gusting conditions. Its average velocity also usually changes significantly with the season of the year. In Gresham the amplitude of winter winds is almost twice that of summer winds.

Energy Trust of Oregon encourages small-wind turbines be installed in urban or rural locations. For rural locations, the Energy Trust lists the following characteristics as increasing financial feasibility:

- Site size of one acre
- Location within about 1,500 feet of a utility electrical meter
- Average wind speeds of at least 10 miles per hour

Small-scale wind turbines for residential applications typically range in electrical output capacity from 500 watts up to 10 kilowatts. These systems can be mounted on towers, poles or buildings. Tower heights are generally between 60 and 100 feet off the ground, preferably at least 30 feet above any obstructions within a 300-foot radius. The wind turbines have blades or rotors up to about 20 feet in diameter.[7]

The American Wind Energy Association lists the following issues as critical for successful small turbine projects when it comes to local government zoning:

- Aesthetics
- Size and structure heights
- Setback distances and lot sizes for safety
- Sound
- Environmental concerns particularly with birds and bats
- Abandonment of turbines

[5] PGE website, Community & Environment, Biglow Wind Farm
[6] Energy Trust of Oregon
[7] Oregon Department of Energy

Other considerations include effects on property values, insurance, rules concerning whether/how to allow multiple turbines, potential structural failure, potential electrical failure and appropriateness of soils.

Turbines in urban environments are more difficult to implement effectively because wind patterns are affected by buildings, trees and other urban obstacles. Height can become more important so the turbine can rise above the aerodynamic obstacles and turbulence, according to the American Wind Energy Association.

Gresham has received interest from property owners for both small-scale wind turbines (such as those in residential areas) and large (but individual) wind turbines (such as in an industrial area). Wind turbines can successfully be installed in urban environments provided that the issues listed above are addressed.

Examples of Wind Turbines Installations

Large-scale wind turbines on a wind farm.

Small-scale wind turbines mounted on a roof.

Small-scale, blade-type wind turbine mounted on a pole.

Small-scale, vertical-type wind turbine mounted on a pole.

2.381.3 Biomass Energy

Biomass energy technologies utilize the solar energy that is stored as carbohydrates in plant materials. Biomass is a renewable energy source because the growth of new plants replenishes the supply. In 2012, three percent of all energy produced in the nation is derived from biomass.[8] This renewable energy source is currently done on a large scale on farms or by utilities or industry, not in a residential setting. Some district energy systems in downtowns and mixed-use areas use biomass as an energy source.[9]

[8] Oregon Dept. of Energy website, "An Overview of Biomass Energy"
[9] International District Energy Association

Ideally, the use of biomass for energy causes no net increase in carbon dioxide emissions to the atmosphere in the long term. As plants grow they use carbon dioxide to make carbohydrates. When used to produce energy, the plant releases the carbon dioxide it absorbed during its lifetime, therefore it is "carbon neutral." That is, the use of biomass does not increase carbon dioxide emissions and does not contribute to global climate change. In addition, the use of biomass is often a way to dispose of waste material that would otherwise create environmental pollution.

Plant material or organic waste (e.g. manure) derived from plant material is the source of all biomass fuel. Some biomass fuel is the waste products left after plant materials have been used for other purposes or consumed by animals. Other biomass fuel is plant material harvested for their energy value (e.g. poplar trees). Oregon biomass sources include wood, agricultural crop residue and organic waste.

The following technologies use biomass:

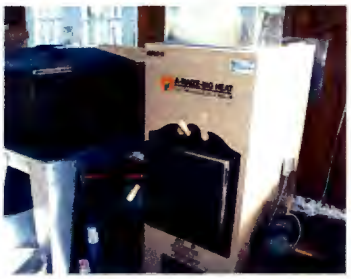
- Direct Combustion: Wood, agricultural waste, municipal solid waste and residential fuels (wood pellets, logs) are burned in boilers, stoves, etc. to create radiant heat or to heat water. Industrial/utility applications often use the hot water to produce steam. The steam can then be used for heating buildings, industrial processes or directed to a steam generator to produce electricity.
- Biogas Production: Wastewater treatment plant sludge, animal manure, and food waste is used to produce methane gas or other combustible gas by allowing bacteria to decompose the material in a digester under anaerobic (no oxygen) conditions. It can be burned in boilers to produce hot water for space heating or directed to a gas generator to produce electricity. Methane gas emitted from landfills and sewage treatment plants can also be captured and used for these purposes. For example, Gresham's wastewater treatment plant captures methane gas from sewage which is then piped to a co-generator. This provides about 50 percent of the electricity needs of the plant.
- Biofuels Production: Plant material is fermented in tanks where bacteria convert the sugars in the carbohydrates into alcohol (ethanol or methanol). Also, diesel fuel can be produced by heating oilseed crops and pressing the oil out or by converting vegetable oils or animal fats. Larger quantities can be produced in a distillation process using chemical solvents.

Potential issues with biomass include:

- Odor
- Noise
- Potential traffic generation for larger facilities
- Air quality reduction resulting from combustion
- Groundwater pollution
- Soil pollution
- Storage of biomass materials

Biomass may be viable in Gresham as evidenced by the biogas facility in operation at the City's wastewater treatment plant. Its viability depends largely on whether the material (wood, food scraps, manure) is available in sufficient quantities to make industrial-scale biomass facilities economically feasible.

Examples of Biomass Installations



Direct Combustion System Furnace
From: A-Maizing Heat Furnace

Biogas/Methane Production Facility

Biomass Plant
From: Gestamp

2.381.4 Geothermal Energy

Geothermal energy is generated from heat stored in the earth. Geothermal resources range from the modest but constant heat (50-70 degrees) generated at shallow depths in the ground that is found nearly everywhere to the extreme heat generated by hot water and steam found at much greater depths in certain areas, such as southern and central Oregon. These areas have a geologic history of lava flows and volcanism. According to the Oregon Department of Geology, Multnomah County does have minor low temperature (approximately 70 degrees) geothermal resources.

Geothermal energy is utilized in two ways:

- High Temperature Geothermal: Hot water and steam is utilized directly for space heating or to generate electricity. For example, Klamath Falls established a heating district in 1981 that uses geothermal hot water to heat roads/sidewalks, homes, businesses, schools, etc. in and near its downtown. No known high-temperature wells are available in Gresham.
- Low Temperature Geothermal: This approach utilizes the relatively constant and mild temperatures naturally found at shallow depths in the soil and groundwater throughout the year. Ground-source heat pumps are used to provide heating, cooling and humidity control. A ground-source heat pump transfers heat stored in the earth or in groundwater into a building during the winter and transfers heat out of a building and into the ground during summer. Water is used as the heat transfer mechanism with the ground. Low-temperature geothermal is widely available in Gresham.

A ground-source heat pump has two main parts:

- Either a closed-loop or open-loop system in the ground where the heat transfer occurs with the soil or groundwater.

- A closed-loop system typically has two loops in the ground side: the primary refrigerant loop in the applicant cabinet where it exchanges heat with the secondary polyethylene pipe loop of water/anti-freeze mix underground. It does not directly draw water out of the ground.
- An open loop system (also called a groundwater heat pump) has a secondary loop that pumps natural water from a well or body of water or aquifer into a heat exchanger inside the heat pump. Heat is either extracted or added by the primary refrigerant loop and the water is returned to a separate injection well, irrigation trench, tile field or body of water.

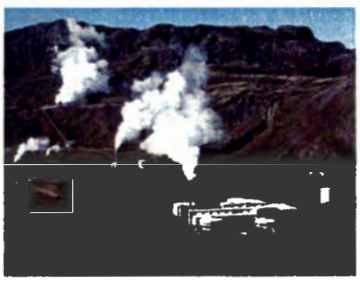
- A ground-source heat pump, similar to an air conditioner, moves heat from or to the earth. The heat pump uses refrigerant in a closed loop system indoors to exchange heat with the water that is pumped from the ground. Heat is then transferred from the refrigerant pipes to the interior air ducts or plumbing system.

  A Portland example of a building using a ground source heat pump is the Burnside Rocket, a 16,000-square-foot mixed-use building in northeast Portland that has office and retail tenants. It utilizes a groundwater heat pump/well system to reduce energy consumption by 40 percent compared with a conventional heating, ventilation and air conditioning system. It helped the project attain Leadership in Energy and Environmental Design (LEED) Platinum certification.[10]

Potential issues with geothermal energy include safety (if not properly installed) and visual impact. Visual impact could include large earth disturbances during construction. Open loop systems can contribute to aquifer depletion, water shortages, groundwater and well contamination and the subsidence of soils. Low-temperature geothermal is available in Gresham. Its viability depends on its costs in comparison with the energy cost savings it produces.

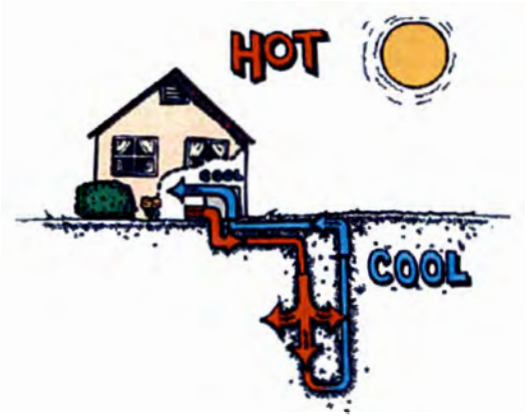
Examples of Geothermal Installations

Geothermal Heating Furnace System



Geothermal Energy Generation Facility Plant

[10] Energy Trust of Oregon website, Business: HVAC/Geothermal



Closed-loop Geothermal System

2.381.5 Micro-Hydro Power

There is some opportunity for development of hydropower energy sources within Gresham. Although damming streams or the Columbia River likely would cause environmental concerns, there is opportunity for micro-hydro power in the streams and even in piping. Micro-hydro energy is energy derived from small power installations producing up to 100kW of electricity. The energy is generated from moving water feeding into a turbine which then turns and generates energy. The water is then directed back into the stream with relatively little impact on the surrounding ecology.

Micro-hydro power is an efficient, low cost energy source as it requires a small amount of flow (as little as two gallons per minute) or a drop as low as two feet to generate electricity. Electricity can be delivered as far as a mile away to the location where it is being used. It is a reliable electricity source during the peak winter energy season when large quantities of electricity are required.

There are two main types of micro-hydro systems:

- In-Outfall Pipe. This micro-hydro system places a turbine within the storm water pipe and generates energy/electricity as water flows past it.
- In-Stream. This micro-hydro system places a turbine in a flowing stream to generate energy/electricity.

The City of Gresham's wastewater treatment plant is investigating the installation of a mini-hydropower facility at the plant's outfall into the Columbia River.

Potential issues include the visual impact of the turbine set into the center of the flowing stream and possible environmental concerns with fish and the local ecology if stream water is diverted away from a portion of the stream.

Examples of Micro-Hydro Installations

In-stream Micro-Hydro System

In-Outfall Pipe Micro-Hydro System

2.381.6 Electric Vehicle Charging Stations

Major automotive manufacturers have been developing plug-in electric vehicles (EVs) which will change the future of transportation with a shift toward cleaner, more energy efficient vehicles. The motor vehicles incorporate a battery energy storage device with the ability to connect to the electrical grid for the supply of some or all of its fuel energy requirements.

Manufacturers of plug-in hybrid vehicles use different strategies in combining the battery and internal combustion engine and may utilize the battery only for the first several miles with the engine providing generating power for the duration of the vehicle range (Chevy Volt for example). Others may use the battery power for sustaining motion and the internal combustion engine for acceleration or higher energy demands at highway speeds. Frequently, the vehicles employing the former strategy gain a designation such as plug-in electric vehicle-20 to indicate that the first 20 miles are battery only.

Batteries

Battery Technology

Recent advancements in battery technologies will allow EVs to compete with internal combustion engine vehicles in performance, convenience and cost. Most major electric car companies utilize Nickel-Metal-Hydride or Lithium batteries for their EVs. The materials for Lithium based batteries are generally considered abundant, non-hazardous and lower cost than Nickel based batteries. The current challenge with lithium-based technologies is increasing battery capacity while maintaining quality, cycle life and lowering production costs. As battery costs decrease over time, the auto companies will increase the size of the lithium based battery packs and thus the range of electric vehicles.

Battery Charging Time

Battery electric vehicles depend upon charging equipment placed at homes, employment centers, and in public. The amount of time to fully charge an EV battery is a function of the battery size and the amount of electric power or kilowatts (kW) that an electrical circuit can deliver to the battery. Larger voltage and amperage circuits will deliver larger amounts of kW. The common 110-120 volts AC, 15 amp circuits will deliver at minimum 1.1 kW to a battery. A 220-240 volt AC, 40 amp circuit (like the household dryers and ovens circuits) will deliver at minimum 6 kW to a battery.

The charging times for battery electric vehicles ranges from 55 minutes at 440 volts AC current to 31 hours 50 minutes for 110 volt AC current. The charging times for plug-in hybrid vehicles range from 17 minutes at 440 volts AC current to 14 hours 30 minutes for 110 volt AC current.

This technology is changing at a rapid rate and times are being reduced significantly.[11] Most vehicles will recharge at a fast charger in half-an-hour or less in the future. EV operators will seek fast chargers when they need a charge that could not be accomplished while doing other activities. The stations could generate additional local traffic. Fast chargers operate at high voltage (for example, 480 volts) and/or high amperage and many potential locations do not have adequate capacity (or funds) for installation. Few EV manufacturers currently utilize fast charging; hardware standards are lacking.

Electric vehicle charging station companies are already scrambling for the best locations to set up networks and provide services to electric car owners. Public dollars can help facilitate initial stages of the EV rollout through policy and planning documents, ordinances, and permit streamlining. Public agencies can also fund socially beneficial actions without duplicating private efforts.[12]

Examples of Electric Vehicle Charging Stations

Single Electric Vehicle Charging Station in Parking Lot

[11] Ecotality Company, "Electric Vehicle Charging Infrastructure Deployment Guidelines for The Oregon I-5 metro Areas of Portland, Salem, Corvallis and Eugene", Jan. 2010.

[12] David Mayfield, "Electric Vehicles, Oregon Style," Oregon Planners' Journal, November/December 2011.

Single Electric Vehicle Charging Station on Street

Multiple Outlet Electric Vehicles Charging Station

Potential issues to consider when regulating vehicle charging stations include the scale, location, time limitations and traffic patterns, effects on parking counts, signage, safety and general infrastructure.

2.381.7 Technological Changes

Technology continues to advance for renewable energy generation, and the City likely will need to respond to new methods of energy generation and new needs for distribution and storage.

Section 2.382 Energy Conservation

The rapidly changing energy situation is an issue that can impact the economy, the environment and the quality of life.

Energy prices fluctuate daily depending on supply and demand. When energy supply increases, prices usually drop and when there is a shortage in the energy supply, the prices tend to increase. Energy supply and demand is impacted by world economic conditions and stability, extreme weather conditions and availability of supply.

Historically, the Federal government was perceived as the appropriate level of government to respond to energy issues. In recent years, state and local governments have established programs to address the energy impacts on local citizens. Oregon has a track record as a leader in clean energy policies, programs and practices to reduce energy consumption and promote renewable energy system alternatives to fossil fuels.

Oregon has minimal fossil fuel reserves but has substantial electricity generation from conventional hydropower facilities. Fifty percent of the state's total electrical generation is from these facilities.

Electricity consumption is growing at 0.8 percent per year which is one-third the national average. Meanwhile the state's population is growing at 1.2 percent per year which is slightly higher than the national average.

Oregon contains significant renewable energy resources from biomass and wind. Currently, the state ranks 21st in the country in biomass electricity production and 23rd in electricity production from wind energy systems.[13] The state will have over 1,900 megawatts of wind energy capacity by the end of 2012.[14]

On June 5, 2012, John Kitzhaber, M.D., governor of Oregon, unveiled his draft 10-Year Energy Action Plan. Oregon's Department of Energy mission statement is to ensure that the state "...has an adequate supply of reliable and affordable energy and is safe from nuclear contamination, by helping Oregonians save energy, develop clean energy resources, promote renewable energy, and clean up nuclear waste." The Department of Energy is responsible for developing and administering the state's energy programs and helping with the strategic planning to develop the state's future energy portfolio.

The 10-Year Energy Action Plan is intended to establish a framework to manage energy policy at the state level in order to:

- Maintain affordable energy costs;
- Assure a high level of regional and local system reliability;
- Promote a clean energy economy and jobs through new business and workforce development;
- Meet state goals and commitments on greenhouse gas emission standards;
- Meet state goals and commitments on developing renewable resources; and
- Ensure the health and welfare of Oregon's citizens.[15]

Local government must also be involved in energy conservation efforts. The role of local government in energy conservation is defined by two basic strategies:

1. Reduce the demand for traditional, non-renewable or finite energy sources; and
2. Increase the supply and use of alternative, renewable energy sources.

The City of Gresham has worked to provide leadership in energy conservation. Sustainable, energy efficient practices implemented by the City in 2012 include:

- The Internal Operations and Facilities Sustainability Plan to transition to 100 percent renewable energy by 2030 and reduce the city's greenhouse gas emissions by 80 percent by 2050;
- The Sustainable Gresham program on line to provide residents, businesses and interested parties with energy efficiency opportunities;
- The new Solar Gresham program to provide information on and facilitate solar energy system installations, thereby increasing the amount of renewable energy produced locally;
- The Sustainable Cities Initiative in collaboration with the University of Oregon to provide university students real world experience in designing sustainable, energy efficient communities; and
- The current Renewable Energy Council Work Plan project to determine where and how renewable energy systems should be allowed in Gresham in order to encourage renewable energy development in appropriate locations while protecting the natural environment, the social and economic quality of life and the design of the built environment.

[13] U.S. Department of Energy, Oregon Energy Fact Sheet, 2012.
[14] Wikipedia, Wind Power in Oregon, 2012.
[15] Governor Kitzhaber, 10-Year Energy Action Plan, June 2012.

These efforts have resulted in some significant strides in energy conservation and more will follow. Gresham currently has 53 residential solar installations and 12 commercial solar installations scattered throughout the city. There are currently no wind energy systems but the City's Wastewater Treatment Plant has installed solar and biomass energy systems and will be installing a micro-hydro energy system later this year.

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Section 3.900 Energy and Communications Facilities

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Sections ~~2.371-372~~ 2.380 – 2.381.7 of Volume 1 discuss energy resources and renewable energy systems potential ~~supply, demand and conservation factors which describe the energy situation~~ in Gresham.

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Section 2. Volume 2, POLICIES is amended by deleting Sections 10.222 Energy Sources and adding the language below:

Volume 2 POLICIES

Section 10.222 Energy Sources

INTRODUCTION

The current energy sources used in Gresham come primarily from outside the city. These sources include electricity generated from solar, wind, hydropower and fossil fuels such as coal. It also includes fuel oil, natural gas and wood fuels. The city does have potential for renewable energy within Gresham. Sources include wind, solar, biomass, geothermal energy and micro-hydropower. Energy system technologies continue to advance, so additional opportunities could develop in the future.

Gresham's dependence on imported energy could be reduced by developing locally produced energy, particularly from renewable energy sources. The benefits of incorporating renewable energy systems into the community are numerous. They can provide a sustainable quality of life and make us more energy independent. The systems can also provide the city with diverse energy supplies while reducing greenhouse gases linked to climate change as well as stimulate the economy and encourage high-quality developments.

The term "renewable energy" is defined as "energy derived from sources that do not use up natural resources (fossil fuels, etc.) or harm the environment." Energy sources for renewable energy include the sun, wind, the decomposition of organic matter, heat from the earth, and the movement of water and ocean waves.

Renewable energy systems come in different scales and produce different amounts of energy and include (but are not limited to):

- Solar power: There are two kinds of active solar energy systems for deriving energy from the sun – solar hot water and solar photovoltaic systems. A solar hot water system preheats the water that goes into the water heater, which reduces the amount of electricity or gas that water heater consumes. A photovoltaic system produces electricity that reduces the purchase of electricity from a utility.
- Wind: Wind turbines convert wind energy into electricity. A wind turbine works by having the wind turn its blades or rotor, which spins a shaft connected to a generator that makes electricity. The higher and more constant the wind speed the more electricity is produced, up to the maximum output of the turbine.

- Biomass: Biomass energy technologies utilize the solar energy that is stored as carbohydrates in plant materials. Carbohydrates are the organic compounds that make up biomass. Biomass is a renewable energy source because the growth of new plants replenishes the supply. This alternative energy source is typically done on a large scale on farms or by utilities or industry rather than in a residential setting.
- Geothermal: Geothermal energy is generated from heat stored in the earth. Geothermal resources range from the modest but constant heat (50-70 degrees) generated at shallow depths in the ground that is found nearly everywhere to the extreme heat generated by hot water and steam found at much greater depths in certain areas, such as southern and central Oregon.
- Micro-hydro: Micro-hydro energy is generated from the movement of water through a turbine either in a pipe or in a stream. The energy source is small scale and reliable during the peak winter season.

Issues involved in allowing renewable energy systems include the need to protect community health, safety, quality of life, environmental quality, and the quality of the built environment.

ENERGY GOALS, POLICIES AND ACTION MEASURES

GOALS

1. Gresham will incorporate renewable energy systems to the maximum extent feasible.
2. Gresham will be known as a world-class location for renewable energy jobs and innovation.
3. Energy use, generation, distribution and storage will:
    - Sustain or enhance community health, safety, quality of life, environmental quality and the quality of the built environment.
    - Promote a stable and equitable economy that includes affordable energy.

POLICIES

1. Ensure City programs and codes promote energy use, generation, distribution and storage that sustain or enhance community health, safety, quality of life, environmental quality and the quality of the built environment.
2. Encourage innovation, such as through Development Code flexibility, removing barriers to adoption of new renewable energy systems and considering incentives.
3. Apply the appropriate level of review and regulation necessary for renewable energy projects to protect community health, safety, quality of life, environmental quality and the quality of the built environment.
4. Incorporate renewable energy use in City facilities where feasible. This should consider financial feasibility.
5. Encourage public and private use of renewable energy.
6. Promote Gresham as an attractive center for renewable energy jobs.
7. Ensure the benefits of energy are distributed equitably and any potential negative effects are not concentrated unfairly.

ACTION MEASURES

1. Develop Development Code provisions to remove barriers to renewable energy systems and clarify the approval process for such systems. The Development Code standards should:
    - Allow the right systems in the right location;

- Address the potential effects on adjacent properties, community health, safety, quality of life, environmental quality and the quality of the built environment; and
- Be easy to use and understand.

2. Work to meet the City's Internal Operations & Facilities Sustainability Plan.
3. Promote renewable energy technologies and associated jobs as staffing allows through mechanisms such as:
    - Outreach, educational and promotional materials;
    - Internal and external partnerships with agencies, non-profits, utilities and other entities;
    - Tracking of renewable energy efforts; and
    - Supporting group efforts to implement district energy systems or the bulk purchase of renewable energy systems.

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Section 10.223 Energy Conservation

INTRODUCTION

Conservation of energy at the local level is achieved through programs aimed at fostering energy efficient land use patterns and transportation modes, and by encouraging renewable energy systems. Programs to encourage energy efficiency include infilling land with new development; increasing the densities of land uses; configuring the City to reduce travel distances from residences to work and to activity areas; and encouraging alternate renewable energy use experimentation. Reductions in energy consumption are also promoted to decrease reliance on foreign energy sources. (**Section 2.382** – Findings document).

~~SUMMARY OF FINDINGS~~

~~Conservation of energy at the local level is best achieved through programs aimed at fostering energy efficient transportation modes and land use patterns, reducing travel distances from residences to work and activity areas, infilling land; increasing densities of land uses; and encouraging alternate renewable energy use experimentation. Reductions in energy consumption reduce the reliance on foreign energy sources. (Section 2.383 – Findings document).~~

~~POLICY~~

~~IT IS THE POLICY OF THE CITY TO SUPPORT ENERGY CONSERVATION MEASURES.~~

ENERGY CONSERVATION GOALS, POLICIES AND ACTION MEASURES

GOALS

1. Gresham will promote energy conservation.

POLICIES

1. Have an efficient urban land use form that promotes energy conservation.
2. Conserve energy through programs aimed at fostering energy efficient transportation modes.
3. Encourage new renewable energy systems in the city.
4. Ensure a reduction of energy consumption where feasible.

~~IMPLEMENTATION MEASURES~~

1. ~~The City shall pursue a more energy efficient urban form by:~~
   a. ~~Encouraging the development of vacant and underutilized property within established and developing areas which have the capacity to accommodate more population.~~
   b. ~~Developing the Central Business District which serves to serve as a focal point for activity within the city, paying particular attention to design considerations for mass transit users.~~
   c. ~~Facilitating the development of employment opportunities within the city in order to reduce the need for job related commuting.~~
2. ~~The city shall develop policies and strategies concerning transportation that promote energy efficiency and conservation such as clustering higher housing densities in close proximity to transit facilities and traffic ways providing functions of collector or arterial streets.~~
3. ~~The City shall regularly review and modify if necessary, municipal operations and practices to ensure that the maximum benefit is achieved from energy usage. City codes, practices and policies shall be reviewed to ensure they do not discourage energy conservation.~~
4. ~~As an element of the City's Capital Improvement Program, the City shall favor facility and services improvements, extensions and programs which promote the goals of energy conservation.~~
5. ~~The Community Development Standards document shall require that development proposal consider provisions for energy conservation and alternate energy sources as an integral component of the development.~~
6. ~~The Community Development Standards document shall include standards to achieve the necessary spatial orientation to attain the maximum benefit from incoming solar radiation for structures and subdivisions.~~
7. ~~Existing and future public institutions should consider the installation of solar equipment for heating and cooling.~~
8. ~~The City will seek state and federal assistance for, and encourage insulation of, existing structures.~~

*****

First reading: December 4, 2012

Second reading and passed: January 15, 2013

Yes: Echols, Hinton, Fuhrer, Palmero, McCormick, Stegmann

No: None

Absent: Bemis

Abstain: None

Erik Kvarsten
City Manager

Shane T. Bemis
Mayor

Approved as to Form:

Richard D. Faus
Senior Assistant City Attorney

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AND DEVELOPMENT

CITY OF GRESHAM
Urban Design & Planning
1333 NW Eastman Parkway
Gresham, Oregon 97030-3813
www.greshamoregon.gov

DLCD
Attn: Plan Amendment Specialist
635 Capitol St., NE #150
Salem, OR 97301-2540

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