CITY OF ASHLAND

Council Communication
November 15, 2016, Business Meeting

Discussion of policy questions to be addressed regarding the 10x20 Ordinance

FROM:
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SUMMARY
This is a discussion of potential answers to a list of policy questions that need to be addressed in order to conduct feasibility and cost analyses for implementation of the 10x20 ordinance. These questions were initially developed by City staff and supplemented by the ad hoc Climate and Energy Action Plan Committee.

BACKGROUND AND POLICY IMPLICATIONS:
On April 26, 2016, a group of local citizens filed an initiative petition to refer to the ballot an ordinance titled "An Ordinance Requiring the City of Ashland to Produce 10 Percent of the Electricity Used in the City from New, Local and Clean Resource by the Year 2020." On August 10, the City Recorder verified that the petitioners had gathered enough signatures to refer the ordinance to the ballot. At its August 16 business meeting, the Council agreed to accept the ordinance rather than referring it, and adopted the ordinance on first and second reading at its September 6 meeting.

Before the ordinance can be implemented and the fiscal implications of various implementation scenarios can be determined, many clarifying questions must be answered. This includes not just definitional and ordinance content questions, but basic policy questions that relate to the goals of the ordinance, the juxtaposition of the ordinance with state-mandated renewable portfolio standards and the relationship of the ordinance to the still-in-progress Climate and Energy Action Plan.

Given the above, staff assembled a list of questions -- both policy questions and clarifying questions -- that it feels must be answered to determine how and at what cost the ordinance will be implemented. This list was shared with the Climate and Energy Action Plan ad hoc committee for the purpose of having the committee add other questions that staff may not have considered. When these questions were reviewed with the Council at its November 1 business meeting, the Council requested that a discussion of the policy questions be scheduled for this meeting.

The policy questions developed by staff and the ad hoc committee are as follows:
1. What are the primary objectives of the ordinance and in what order of priority?
    a. Independence from the regional electricity grid?
    b. Emergency access to electricity due to regional grid failure?
    c. Carbon mitigation locally?

d. Carbon mitigation regionally?

2. Should the ordinance be developed to utilize the State of Oregon Renewable Portfolio Standards (RPS) structure as defined in Oregon Revised Statutes as the template and model to implement the 10 by 20 ordinance?
3. Should the ordinance be developed with its own set of definitions, standards and eligible resources separate from the State RPS structure?
4. If separate from the State RPS, should the local supplemental RPS include or exclude the state RPS mandates, i.e. cumulative or additive?
5. Should the clarified goals and intent of the ordinance be incorporated into the Climate and Energy Action Plan (CEAP) or remain as a stand-along ordinance?
6. How does the ordinance fit in with the other goals of the CEAP? Should it take precedence both financially and in priority or should it be reviewed and evaluated equally with the other strategies and actions within the plan?
7. What would the impacts of this ordinance be on low income residents/customers in our community?
8. How does the ordinance impact the existing BPA contract?
9. What is the total renewable energy potential in the City?
10. How would implementation of this ordinance impact future GHG emissions as defined and calculated in the City's GHG Inventory?

Attached to this Council communication is background information and staff's perspective on the answers to some of these questions to aid in the Council discussion.

In addition to addressing these policy questions, staff will develop alternative answers to the ordinance content questions and with those answers, assemble a variety of scenarios for achieving the goal of the ordinance. Staff will then return to the Council to have it review, amend or add to these scenarios, after which staff will hire an objective third-party consultant to evaluate the feasibility and cost of each of the scenarios. With this information in hand, the Council can then either amend the ordinance or adopt an implementing resolution and the City can begin the work of actual implementation.

COUNCIL GOALS SUPPORTED:

21. Be proactive in using best practices in infrastructure management and modernization.

FISCAL IMPLICATIONS:

None

STAFF RECOMMENDATION AND REQUESTED ACTION:

N/A. This item is for discussion only

SUGGESTED MOTION:

N/A. This item is for discussion only

ATTACHMENTS:

10x20 ordinance policy questions for Council
Renewable Portfolio Standards fact sheet
Ordinance No. 3134

CITY OF ASHLAND

10% by 2020 Ordinance Questions for Council

Policy Questions

1. **Q - What are the primary objectives of the ordinance and in what order of priority?**

The answer to this question impacts how we define "local." If the goal is to reduce the carbon emissions of the regional grid, then new generation capacity – if that is how the 10% is to be achieved – can be built anywhere that is served by the regional grid. However, if the objective is energy independence or access to emergency power, then new generation capacity must be built in a location that allows direct connection to the City's distribution system. Objectives for Council to consider include the following:

1) **Reduction of carbon emissions**
   Local GHG Calculation - Greenhouse gas (GHG) inventory protocol utilizes the regional energy mix to calculate a community's carbon emissions in the energy sector. Any action that reduces total net electric consumption locally reduces the carbon emissions equivalent to the regional grid. Generation of 10 percent of local annual consumption is roughly equivalent to mitigation of just over 5,000 metric tons of CO2.

   Regional GHG Calculation – GHG Inventory protocol utilizes the regional energy mix rather than the City's purchased power contract to calculate net carbon emissions. While the 10% local generation reduces the City's contractual (predominantly hydro) resource commitment (although not what we are required to purchase from the BPA), the benefit accrues to the regional grid, as this action would "free up" hydro resources to be used elsewhere and incrementally avoid future potential high carbon generation.

   GHG Calculation caveat – If 10 percent local generation utilizes Renewable Energy Credits (RECs) as part of the financing mechanism (common practice), the carbon mitigation described above would apply to the City's GHG inventory only if the City were to retain/obtain ownership of the RECs. If the City were to contract with a third party to build new renewable energy generation facilities and the contractor kept the RECs (again, common practice), the City would receive no credit for carbon reduction.

2) **Independence from the regional electricity grid** –Local generation of 10 percent of electricity provides no functional independence from the larger regional grid. Any intermittent sources of electricity require battery storage. Additionally, grid independence requires the ability to generate, store and distribute peak load levels of electricity, which can be over twice the average daily capacity resulting in total infrastructure costs far exceeding the community's financial abilities.

   However, incremental levels of local generation do provide benefits such as:

Diversification of local energy sources – The City currently has one predominant supplier of electricity. While BPA has been and is expected to continue to be a reliable source of cost effective, low carbon electricity, local generation provides some level of insulation from potential unforeseen financial, regulatory or environmental risks of that sole source provider.

Reduction in transmission costs and associated energy losses – The delivery of electricity requires transmission from its source to its destination, resulting in costs for the use of the transmission lines of various other utilities owning and maintaining transmission grid infrastructure between source and destination. Additionally, the movement of energy along the transmission lines results in electricity being consumed in the delivery process, called line loss. This loss is typically between 4-7% of total electricity delivered. Local generation eliminates the transmission and line loss costs associated with delivery into the local grid.

3) **Emergency access to electricity due to regional grid failure** - While regional grid failures are exceedingly rare, significant natural disasters could impact the regional grid and cause power outages locally. If deemed a priority, solutions to regionally caused power outages would be considerably different than standard grid supported local electricity generation. Generation facilities would need to be matched to local community emergency shelter locations. Generation facilities would also need to be supported with battery storage infrastructure and be designed to connect to the facility's electrical distribution system to provide power to the building(s). While potentially feasible, a completely different cost/benefit analysis and project design would be required to meet this particular objective.

2. **Q - Should the ordinance be developed with its own set of definitions, standards and eligible resources separate from the State Renewable Portfolio Standards (RPS) structure?**

   A – The RPS structure is state law and the City is required to comply with that law irrespective of the 10x20 ordinance. Certain elements of the RPS, if adopted in whole as part of the 10x20 ordinance, would effectively negate the ordinance. However, the definitions contained in the RPS provide guidance for definitions that might become part of the ordinance. To the extent practical, staff recommends that the ordinance be as consistent as possible with the Oregon RPS definitions and structure, with exceptions being clearly justified and defined.

3. **Q - If separate from the State RPS, should the local supplemental RPS include or exclude the state RPS mandates, i.e. cumulative or additive?**

   A – This is likely to be reviewed as part of the third party consultant scenario analysis. The ultimate ordinance language and actions taken to meet the new requirements may or may not have any bearing on the State RPS standards that the City is required to meet.

4. **Q - Should the clarified goals and intent of the ordinance be incorporated into the Climate and Energy Action Plan (CEAP) or remain as a stand-along ordinance?**

   A – The CEAP Committee voted to include a reference to the 10x20 ordinance in the draft CEAP. Due to the timing and yet-to-be-clarified policy issues of the ordinance, the committee did not vote to incorporate the ordinance directly into any particular action item, but recognized its place within several focus area strategies with the plan.

5. **Q - How does the ordinance fit in with the other goals of the CEAP? Should it take precedence both financially and in priority or should it be reviewed and evaluated equally with the other strategies and actions within the plan?**

   A – Again, the timing and unknown policy issues of the ordinance prevented the committee from being able to directly compare the 10x20 action with other actions being developed in the CEAP, both in terms of potential carbon mitigation and cost per unit of carbon mitigated versus other potential actions in the plan. The committee did recognize and note that the 10x20 initiative does generally fit as a potential implementing action within several strategy statements in the Buildings and Energy focus area of the plan document.

6. **Q - What would the impacts of this ordinance be on low income residents/customers in our community?**

   A - It is difficult to anticipate the impacts on low income residents/customers until the details of ordinance implementation and effects on utility energy costs are determined. As discussed in the recent study session on the cost of service study, low income does not mean low use. In fact, low income customers are often higher usage customers because they are less able to afford weatherization projects and energy efficient appliances. An increase to the consumption component of electric rates would clearly more severely impact high usage customers than low usage customers. The Council could, as a matter of policy, expand or enhance the Low Income Energy Assistance Program. However, doing so would require additional money from some source, which would presumably be all other ratepayers who do not qualify for that program.

7. **Q - How does the ordinance impact the existing BPA contract?**

   The ordinance, if implemented through a generation resource, will displace Tier 1 BPA power and will trigger the “take or pay” provision of the BPA contract. As a result, the City will still be responsible for the BPA charges (energy and transmission) that are displaced by the ordinance. Total BPA charges will remain relatively unchanged.

8. **Q - What is the total renewable energy potential in the City?**

A – While there are no complete data sets that would provide this answer, the City GIS staff has worked with the Energy Conservation Division to develop an online solar site assessment tool to provide individual homeowners with a snapshot of the solar potential for their home or business. Staff is working on calculating an aggregate number to provide an estimate of the total solar (not total renewable) resource based on the existing roof systems in Ashland. This will not include the potential ground mount solar system opportunities, nor micro-hydro, wind or other renewable energy potential.

The City did participate with Rogue Valley Council of Governments in 2010-11 in the development of a Renewable Energy Assessment (REA) for Jackson and Josephine County. The project inventoried the renewable energy potential in the two-county boundary and was completed by The Good Company (same consultant that did the City's Greenhouse Gas Inventory). Those results indicated that, by a significant degree, energy efficiency had the highest renewable energy potential in the region and also at the lowest cost. This report is available on the City's website at www.ashland.or.uw/rea

9. **Q - How would implementation of this ordinance impact future GHG emissions as defined and calculated in the City's GHG Inventory**

A – See question #1 – local generation of 10% of the total electric consumption within the City of Ashland would result in the mitigation of just over 5,000 metric tons of CO2 equivalent.

Summary of Oregon's Renewable Portfolio Standard

The Renewable Portfolio Standard (RPS) requires that all utilities and electricity service suppliers (ESSs)[1] serving Oregon load must sell a percentage of their electricity from qualifying renewable energy sources. The percentage of qualifying electricity that must be included varies over time, with all utilities and ESSs obligated to include some renewable resources in their power portfolio by 2025.

For current information on Oregon eligible facilities, please visit www.oregon-rps.org.

Table 1 summarizes the percentage targets for the RPS.

Table 1: Summary of RPS Targets and Timelines

RPS obligations on all utilities and electricity service suppliers						
	Percent of Oregon's Total Retail Electric Sales	**Utilities[2] and ESSs**	**Applicable Targets in Year:**			
			2011	**2015**	**2020**	**2025**
Large Utilities	Three percent or more	Portland General Electric, PacifiCorp, Eugene Water & Electric Board	**5%**	**15%**	**20%**	**25%**
Small Utilities	At least one and a half percent but less than three percent	Central Lincoln PUD, Idaho Power, McMinnville W&L, Clatskanie PUD, Springfield Utility Board, Umatilla Electric Cooperative	**No Interim Targets**			**10%**
	Below one and a half percent	All other utilities (31 consumer-owned utilities)				**5%**
Electricity Service Suppliers (ESSs)	Any sales in Oregon	Any Electricity Service Supplier (ESS)	If an ESS sells electricity in the service area of more than one utility its targets may calculated as an aggregate of electricity sold in its territory.			

Conditional Targets

There are two conditions when a small utility would be required to meet the large utility standard regardless of their size if purchase coal power (ORS 469A.055 (4) or if they annex utility territory (ORS 469A.0555 (5)). In the case that a small utility's load increases to exceed three percent of the state load for a period of three consecutive years they would also be subject to the standard as a large utility (ORS 469A.052 (2).

[1] Oregon's deregulation law allows non-utility power sellers (called ESSs) to sell power to non-residential customers. Currently, this applies only to Portland General Electric and PacifiCorp service territory.
[2] Based on 2010 Oregon Public Utility Commission (OPUC) utility data. See the Statistics Book: http://www.puc.state.or.us/puc/Pages/Oregon_Utility_Statistics_Book.aspx.

Exemptions to RPS Targets
Utilities are not required to comply with an RPS target to the extent that compliance will:

- Lead to a utility expending more than four percent of its electricity-related annual revenue requirement in order to comply with the RPS.
- Displace firm Federal Base System (FBS) preference power rights from the Bonneville Power Administration (BPA) for a consumer-owned utility.
- Result in acquisition of power resources in excess of their load requirements in a given compliance year.
- Result in the displacement of a non-fossil-fueled power resource.
- Unavoidably displace hydropower contracts with Mid-Columbia River dams until such a time when those contracts cannot be renewed or replaced.

Eligible Resources and Facility Eligibility Date

Qualifying electricity for Oregon's RPS must be derived from the sources and types of facilities listed in Table 2. Qualifying facilities must also be located within the Western Electricity Coordinating Council's territory. Note that where multiple fuels are used to power a generating facility only the proportion of output that uses qualifying resources can count toward the RPS.

Table 2: Eligible Resource Types Based on Facility Operational Date

<table>
<tr><th>From Generating Facilities in Operation Before January 1, 1995</th><th>From Generating Facilities That Became Operational On or After January 1, 1995</th></tr>
<tr><td rowspan="5">Up to 90 average megawatts (aMW) per utility per compliance year of low-impact certified hydropower, capped at 50 aMW owned by an Oregon utility and 40 aMW not owned by a utility but located in Oregon.</td><td>Hydropower, if located outside of certain state, federal, or NW Power & Conservation Council protected water areas.</td></tr>
<tr><td>Wind</td></tr>
<tr><td>Solar Photovoltaic and Electricity from Solar Thermal</td></tr>
<tr><td>Wave, Tidal, and Ocean Thermal</td></tr>
<tr><td>Geothermal</td></tr>
<tr><td>The increment of improvement from efficiency upgrades made to hydropower facilities, although if the improvement is to a federally-owned BPA facility only Oregon's share of the generation can qualify.</td><td>Biomass and biomass byproducts; including but not limited to organic waste, spent pulping liquor, woody debris or hardwoods as defined by harvesting criteria, agricultural wastes, dedicated energy crops and biogas from digesters, organic matter, wastewater, and landfill gas. Under certain conditions, municipal solid waste may qualify. The burning of biomass treated with chemical preservatives disqualifies any biomass resource.</td></tr>
<tr><td rowspan="2">The increment of improvement from capacity or efficiency upgrades made to facilities other than hydropower facilities.</td><td>Other resources as determined to qualify through ODOE rulemaking. However, nuclear fission and fossil fuel sources are prohibited in all cases as qualifying resources.</td></tr>
<tr><td>Electricity from hydrogen derived from any of the above resources.</td></tr>
</table>

Renewable Energy Certificates

Compliance with the RPS requires proof of generation of the qualifying electricity. Like many states, Oregon requires proof in the form of a Renewable Energy Certificate (REC). Oregon Administrative Rule states that a REC is a unique representation of the environmental, economic and social benefit associated with the generation of electricity from renewable energy sources that produce Qualifying Electricity. Each REC represents one megawatt-hour (MWh) of generation of qualifying electricity. By rule, all RECs must be issued by the Western Renewable Energy Generation Information System (WREGIS).

Oregon recognizes two types of Renewable Energy Certificates (RECs) in the RPS. Initially, all RECs are "bundled" together with their associated electricity that is produced at the renewable electricity generation facility. When both a REC and the electricity associated with that REC are acquired together, one has acquired a "bundled" REC.

A generator or REC owner may decide to "unbundle" the REC from the electricity associated with that REC by using or selling the two components separately. In doing so the purchaser of the power loses the ability to claim that the power is renewable energy. The "unbundled" REC may be used by its new owner to comply with the RPS.

To meet an RPS target obligated utilities or ESSs must permanently retire the number of RECs equivalent to the target load percentages. For example, if a utility is subject to a 10% target and sold 100,000 MWh to Oregon customers, then it must retire 10,000 RECs to meet its compliance target.

For large utilities, no more than 20 percent of their compliance target in a given year may be met through the use of unbundled RECs, although large consumer-owned utilities such as EWEB have a limit of 50 percent until 2020. RECs from PURPA facilities in Oregon are exempt from this limit.[3]

RECs may be banked indefinitely and used in future years. Older RECs must be used before newer RECs, called the "first in first out" principle.

Implementation Plans and Compliance

The Oregon Renewable Portfolio Standard compliance schedule for the state's three largest utilities began in 2011. In 2012, Eugene Water and Electric Board, PacifiCorp, and Portland General Electric will demonstrate REC retirement in an amount equivalent to five percent of its 2011 retail sales, unless otherwise exempted (see Exemptions to RPS Targets, above).

Every two years, large utilities submit implementation plans detailing how they expect to comply with the standard.[4] The plans include annual targets for acquisition and use of qualifying

[3] PURPA is a federal law that requires utilities to purchase the output of smaller energy projects.
[4] EWEB reports its plan to comply with the RPS in its Integrated Energy Resource Plan.

electricity and the estimated cost of meeting the annual targets. Prudently incurred costs associated with RPS compliance are recoverable in rates.

Investor-owned utilities and ESSs must submit their annual compliance reports to the OPUC. Consumer-owned utilities report compliance to their customers, boards, or members.

Consumer Protection and Cost Controls

There are two mechanisms that serve as cost protections for Oregon consumers: an alternative compliance payment mechanism and an overarching "cost cap" on utility RPS expenditures.

Alternative Compliance Payment: In lieu of acquiring a REC to comply with a portion of the RPS, a utility or ESS may instead pay a set amount of money per megawatt-hour (MWh) into a special fund that can be used only for acquiring renewable energy resources in the future, or for energy efficiency and conservation programs. This mechanism sets an effective cap on the cost of complying with the RPS on a per MWh basis.

Cost Cap: Utilities are not required to comply with the RPS to the extent that the sum of the incremental costs of compliance with the RPS (as compared with fossil-fuel power), the costs of unbundled RECs, and alternative compliance payments exceed four (4) percent of a utility's annual revenue requirement in a compliance year. Consumer-owned utilities may also include R&D costs associated with renewable energy projects in this calculation. As of 2012, the incremental cost of compliance for all Oregon utilities has been well below the four percent cap.

ORDINANCE NO. 3134

AN ORDINANCE REQUIRING THE CITY OF ASHLAND TO PRODUCE 10 PERCENT OF THE ELECTRICITY USED IN THE CITY FROM NEW, LOCAL AND CLEAN RESOURCE BY THE YEAR 2020 AND AN EMERGENCY IS DECLARED TO TAKE EFFECT ON ITS PASSAGE

RECITALS:

WHEREAS climate change is caused in large part by human action.

WHEREAS Ashland citizens have a responsibility to contribute to slowing of climate change.

WHEREAS Ashland owns its own electric utility.

SECTION 1. The City of Ashland shall cause at least 10 percent of the electricity used in the City to be produced from new, local and clean resources from and after the year 2020.

SECTION 2. The City of Ashland shall enact such ordinances and resolutions, and appropriate such funds and take necessary actions as are necessary to implement the requirements of Section 1 above.

SECTION 3. This Ordinance being necessary to meet the requirements set by Oregon State Elections Law, an emergency is declared to exist, and this Ordinance takes effect on its passage.

The foregoing ordinance was first read by title only in accordance with Article X, Section 2(C) of the City Charter on the 6 day of September, 2016, and duly PASSED and ADOPTED this 6 day of September, 2016.

Barbara M Christensen

Barbara M. Christensen, City Recorder

SIGNED and APPROVED this 6 day of September, 2016.

John Stromberg

John Stromberg, Mayor

Reviewed as to form:

David H Lohman

David H. Lohman, City Attorney