Date: June 20, 2016

Subject: RPS Rulemaking – Notes from stakeholder meeting #1

Location: Oregon Dept. of Transportation, Gail L. Achterman Commission Room (355 Capitol St.)

Scheduled Time: 8:30 a.m. – 12:30 p.m.

Actual Duration: 1 hour, 2 minutes

Call to Order/Introductions:

The meeting was called to order at 8:30 a.m. by ODOE staff. ODOE noted that the rulemaking was intended to be a collaborative and iterative process. Rather than forming a formal committee, stakeholders will be invited to participate in the rulemaking proceedings at their convenience. ODOE mentioned the meeting was being recorded for notetaking purposes and then opened the floor to introductions:

In attendance:

Willie Tiffany – ORRA Mark Ryan – Pyramid Green Power Cullen Ryan - OIT Brandon Wood – Georgia Pacific Dina Dubson-Kelley - RNW Ian Bledsoe – Clatskanie PUD **Trevor Beltz - CREA** Tyler Pepple – Davison Van Cleve Svlvia Tanner- RNW John Redfield – DR Johnson Linc Cannon - OFIC Valarie Johnson – DR Johnson Marcus Kauffman - ODF Alex Schay - Wellons Dave Modal – ETO Pooja Kishore - Pac **Bill Carlson - OFIC**

On Phone/Webinar:

Alan Hickenbottom - Umatilla Mary Frantz - WREGIS Todd Hansen – Biomass One Gary Bauer – NW Natural Lynette Green – CEC Andrea Coon -WREGIS Beth Vargas Duncan - OMEUC Brendan McCarthy - PGE Mark Nystrom - AOC Megan Nuss - Wisewood Laura Leebrick – Dry Creek Landfill Jeff Maag – City of Gresham Christine Mullen - WREGIS Kurt Lumpkin – Biomass One

From ODOE:

Rebecca Smith Andrew Warren Linda Ross Robin Freeman Jess Shipley Marty Stipe Jessica Reichers (by phone) Wendy Simons (by phone)

ODOE staff provided a background of SB 1547 legislation, summarizing the highlights of the bill, especially the introduction of thermal RECs (TRECs) in Oregon's Renewable Portfolio Standard (RPS). The legislation states "If a facility that generates electricity using biomass also generates thermal energy

for a secondary purpose, the State Department of Energy, as part of the system established under ORS 469A.130, shall provide that renewable energy certificates must be issued for the generation of the thermal energy." ODOE provided an overview of the RPS and ODOE's process to approve generating facilities as eligible for Oregon's RPS. ODOE mentioned that the rationale behind legislation was to incentivize new renewable developments. ODOE discussed WREGIS' (Western Renewable Energy Generating Information System) role with the RPS, explained how generating facilities must register their generator with WREGIS and then apply to ODOE for Oregon RPS compliance.

Thermal RECs:

ODOE staff discussed the new legislation in SB 1547 that introduces thermal into Oregon's RPS under ORS 469A. It was mentioned that the legislation does not provide specifics on incorporating this into the RPS, but the legislation does include a conversion factor for thermal energy: 1 MWh = 3,412,000 BTU

ODOE staff stated that the bill does not provide clarity for eligibility of biomass, the definition of a "secondary purpose," there is no discussion of energy efficiency or heat rate, there is no discussion of a start date for crediting, nor a method for measuring or verification.

ODOE staff mentioned that this is the first of several stakeholder meetings; the second meeting will be held August 3, 2016. Rule language will be drafted and circulated to the stakeholder group before the second stakeholder meeting to allow stakeholders time to review the draft rule language. The third stakeholder meeting will be held on September 7, 2016, where ODOE will provide a second iteration of draft rule language. ODOE will hold a public hearing on or around November 2 in order to provide rule language to the Secretary of State by end of November. Given this timeframe, ODOE will have time to schedule additional stakeholder meetings, if necessary.

ODOE summarized the agenda and repeated where the legislation is unclear.

ODOE then opened the floor to discussion on the agenda or the overall purpose of the meeting:

Stakeholder Discussion:

- Q (Valarie Johnson, DR Johnson) Sec of State and new elected officials taking office. Any issues with that and the rulemaking?
 - A (ODOE) ODOE does not foresee any issues impacting this rulemaking; however,
 ODOE is open to stakeholder comments if that is a concern.

Definitions

ODOE opened the discussion for definitions:

- Q (Tyler Pepple, Davison Van Cleve) Does ODOE define biomass by rule?
 - A (ODOE) No direct definition in RPS statute or rule, it does list what biomass is eligible or ineligible. There is also no definition in RPS legislation. Just eligibility.
 - Q (Tyler Pepple) What about other ODOE rules?
 - A (ODOE) Will get back, there are definitions of Biomass that appear in other ODOE rules.
- Comment (Linc Cannon, OFIC) There are definitions of biomass for Biomass Producer or Collector tax credit and other forestry statutes.

ODOE staff asked for suggestions defining "Secondary Purpose" and mentioned the need for a definition in rule.

• Comment (Linc Cannon)— In the forest industry, this is fairly well defined and accepted. CHP utilizes steam to generate electricity and then uses the steam to dry wood or some other process. Straight forward for forest industry. Not familiar with biogas or other uses of thermal.

ODOE staff mentioned that other states have defined this in other ways; some states allow a process directly related to power generation, while other states do not. Some states require a displacement of conventionally fueled electricity. Other states require a mechanical process of heating and cooling.

- Q (Linc Cannon) How many other states have included a thermal process?
 - Comment A participant in attendance indicated there are eight other states that have included thermal processes in their RPS.
- Q (Mark Ryan, Pyramid Green Power) How flexible is the "biomass" definition? Does heat have to be tied to biomass? There are many processes that create heat for a secondary purpose, such as thermal heat for electricity. Considered anything other than biomass?

- A (ODOE) Legislation explicitly calls out biomass, ODOE has to follow the legislative mandate.
- Comment (Mark Ryan) There are many processes in the U.S. that create heat for secondary sources or electricity. Legislation out of U.S. Senate that looks at thermal heat to electricity.
 - ODOE ODOE is obliged to make rules for the legislation as it stands; specifically calls out biomass.
- Comment (Brendan McCarthy, PGE) 469A.025 separates biomass and biomass byproducts. Landfill gas is likely a biomass byproduct. ODOE may want to draw a distinction between "biomass" and "biomass byproduct."
- Q (Tyler Pepple) How does Energy Efficiency relate to this?
 - A (ODOE) Efficiency for Co-Gen has been brought up. ODOE is exploring to see if there would be an issue the group should discuss for this rulemaking?
 - Comment (Tyler Pepple) BTUs established in statute.

ODOE staff moved the discussion to Qualifying Facilities and Generation. Specifically, Commercial Operation Date and multiple fuel sources?

- Q (Todd Hansen, Biomass One) Restrictions in 469A.025 for forest debris? What are they?
 - A (ODOE) 469A.025 includes Forest or rangeland woody debris from harvesting or thinning conducted to improve ecological health and to reduce uncharacteristic stand replacing wildfires. Wood materials from hard wood timber must be grown on land described in statute.
- Q (Brandon Wood, Georgia Pacific) Our facility uses a multitude of fuels, both fossil and renewable. Normal process takes portion of steam from renewable resources. Would this be eligible toward RECs?

- A (ODOE) This is an approach we are looking at and is likely a process the industry would be familiar with.
- Q (Tyler Pepple) Statute simply states "Using biomass." As long as using biomass, shouldn't all thermal energy be eligible for RPS?
 - A (ODOE) There would be cautions if a boiler was fired with fossil fuels. How do we ensure we are issuing RECs for generation from biomass?
- Q (Tyler Pepple) RECs are generated from thermal energy, not from the biomass. Multiple ways to interpret statute. Does thermal have to come from biomass?
 - Comment (Valarie Johnson) We would have heartburn for any RECs that were used for any source of fossil fuel production.
- Comment (Marcus Kauffman, Oregon Department of Forestry) It seems like we are interested in crediting thermal energy for biomass. If there is an instance where the resource isn't 100 percent biomass, maybe 90 percent? There should be a system that derives thermal energy from biomass, excluding fossil fuel energy.
- Comment (Bill Carlson, OFIC) Seems like process determining who gets TRECs and how many lends itself to a simple hierarchy. The biomass has to qualify, has to simultaneously generate electricity AND thermal. Finally, make sure uses are defined and approved. Seems there is a simple Yes/No matrix to move forward.

Discussion on RECs:

ODOE staff opened a discussion on RECs and the need to incorporate rules for the start date of crediting, data requirements, monitoring/verification and any comments on transferring, banking, retiring of RECs.

- Q (Dina Dubson-Kelley, Renewable Northwest) How would WREGIS incorporate this? How do other states in WREGIS handle thermal RECs?
 - A (Andrea Coon, WREGIS) Oregon will be the first state to incorporate this; there is another state watching this proceeding to incorporate TRECs as well.
 - A (ODOE) We will be working with WREGIS and other WREGIS stakeholder states as we develop the rules.

- Comment (Bill Carlson) Comment on process in determining a thermal REC: Getting to BTU equivalent may be the aspect that will require the most time and thought. Seems that at some point we will have to consider both quantity and quality determinations of heat and whether or not that requires a meter certification process, whether to allow self-reporting, monitored reporting. This is uncharted territory. We will have to be careful to not overburden producers, but need to make sure the information that is being submitted is verifiable, and the process and the data are correct.
 - A (ODOE) Any information from biomass producers on their current process and metering operations will be helpful as we write the rules.
- Q (Tyler Pepple) Regarding the start date for crediting, law passed in March, will retroactive crediting be allowed?
 - A (ODOE) We have been discussing with WREGIS. Start date could be date of law, March 8. Possibility in WREGIS for this date. Some retroactive crediting is within realm of possibility; will have to consider how far back, because going too far back will result in less fresh data.

Open Floor Discussion on Overall Agenda:

- Q(Alex Schay, Wellons) How have thermal RECs worked under North Carolina's RPS?
 - A (ODOE) ODOE has been looking to other state's RPS compliance plans in other states. Will follow up with North Carolina information.
- Comment (Bill Carlson) The state of Massachusetts' RPS program, while complicated, has a succinct definition of "Useful thermal," which states "energy in the form of direct heat, steam, hot water or other thermal form that is used in production and beneficial measures for heating, cooling, humidity control, or process use, or other valid thermal end use energy requirement in which fuel or electricity would otherwise be consumed." Seems like this is similar to the intent of Oregon's legislation.
 - A (ODOE) This is a possible option for Oregon to pursue. One area in their definition not addresses is that there is no stipulation that thermal energy must displace conventional fossil fuel electricity.

- Comment (Bill Carlson)- The Massachusetts program is more restrictive than Oregon's would likely need to be. They would only credit the net benefit from an overall efficiency standpoint. Massachusetts might be the only state that has progressed to the point where they have registered TRECs with an agency that are able to be traded.
 - A (ODOE) Metering has been an issue in other states; Oregon will look at this carefully. Goal is to balance integrity of REC and REC market and overall RPS with threshold that is obtainable. We are looking at having a metering requirement in rule, here without rule language to gather input before drafting. Rebecca asked for comments.
- Q (Valarie Johnson)- Will there be a draft rule before August stakeholder meeting?
 - A (ODOE) Yes. Goal is to have draft rules ready before next stakeholder meeting. Upcoming stakeholder meetings could be held in other venues/locations/city. Open to suggestions. Rebecca mentioned that ODOE wants these meetings to be as convenient for stakeholders as possible. If a number of stakeholders are located in another location, we are open to having meetings elsewhere.
- Comment (Andrea Coon, WREGIS): WREGIS will be more likely to participate in person in Portland, due to proximity to airport.
- Q (ODOE) Is Portland a more appropriate location for a meeting?
 - A: A majority of the present participants indicated Portland would be a more convenient meeting location.
- Comment (Bill Carlson) Might be useful to meet at an actual CHP facility for a tour and see beneficial use in person.
- Q (Alex Schay) SB 1547 legacy biomass, banking RECs, banked RECs could not be monetized until 2026. Speak to that?
 - A (ODOE) SB 1547 removed prior restriction on certain legacy biomass facilities built prior to 1995, could generate RECs, but had to bank them until 2026. This legislation lifted this restriction.
- Comment (Dina Dubson-Kelley) An analysis of other states' thermal processes, a matrix might be helpful for stakeholders to see other processes in the works.
 - A (ODOE) ODOE will develop this sort of document and distribute.

- Q (Brandon Wood) Any idea what other states are requiring for metering? Are more states using self-reporting or third-party reporting? Estimating? Split down the middle?
 - A (ODOE) Some states provide a number of equations; most states are set on metering. Some states do allow estimations, but some states also include residential within programs. Will research further and follow up with group. Likely will be driven by whatever WREGIS-like system is in place in other states; ODOE will look to other state's examples. There are requirements that must be met for system operations.
- Q (Lynette Green, CEC) Definition of REC. Does it mean that ODOE will redefine? Currently discusses electricity. Will Thermal be added to definition? Who will benefit from TRECs? Electric utilities for compliance? Or RPS target for gas utilities?
 - A (ODOE) Legislation calls out specifically electricity generation. Likely will add to rule a subcategory of REC from a different generation source within rule. Probably no need to update overall definition of REC. As to who would benefit, other states have incorporated tiered RPS systems; our statute does not call for separation of processes in tier system.

ODOE referenced the schedule and repeated draft rule language will be ready prior to next meeting. ODOE stated intention to look in the questions that were asked in today's meeting and shared contact information for any questions.

The meeting was adjourned at 9:34 am.