CRS center for resource solutions

December 5, 2018

Ms. Kristen Sheeran, Director
Carbon Policy Office
Office of the Governor
900 Court Street, Suite 254
Salem, OR 97301-4047

RE: Information Related to the Impact of a Cap-and-Trade Program in Oregon on Voluntary Renewable Energy Markets

Dear Director Sheeran:

Center for Resource Solutions (CRS) appreciates this opportunity to provide input on the design of a cap-and-trade program in Oregon. We have two primary issues of concern at this stage, which we address in order below:

- The inclusion of a voluntary renewable energy (VRE) set-aside; and
- Accounting for specified renewable imports, including whether renewable energy certificate (REC) delivery/retirement is required to assign a specified renewable emissions factor to imported power.

Inclusion of a VRE Set-aside

I am sure you are aware of the purpose and function of an allowance set-aside for VRE, its implementation in both California and the Regional Greenhouse Gas Initiative (RGGI), as well as the importance of VRE as a driver of renewable energy development and emissions reductions in Oregon.[1] This letter contains information related to concerns about the potential size of a VRE set-aside in Oregon with respect to both compliance costs and foregone auction revenue that may be used for community and environmental justice (EJ) programs.

1. Based on Green-e® data, we can expect the size of the set-aside to be small relative to total covered emissions in the electricity sector.

We ran an exercise using historical Green-e voluntary market data for 2011-2017 and a 2010 baseline for Oregon. As shown in Table 1, a set-aside for total Green-e voluntary sales of Oregon generation (supply located in Oregon) would represent about 1% of total electricity sector allowances each year (about 210,000 allowances per year). In 2016, a VRE set-aside would represent about 1.5% of electricity sector allowances (about 250,000 allowances). If Green-e represents about half of the VRE market in Oregon, a set-aside for total VRE generation in Oregon would represent about 2% of total electricity sector allowances. This is conservative for a number of reasons, first, based on the fact that we used California's default emissions factor (EF) for unspecified power (0.428 MTCO2e/MWh). Oregon's default EF may be cleaner. Second, Green-e may also represent more than 50% of voluntary sales of Oregon

[1] See the Resources listed below for additional information.

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renewable energy. And third, depending on how the set-aside is structured, and if it is set up like California's program, demand for the set-aside may be limited to Green-e sales.

Table 1. Example VRE Set-aside for total VRE in Oregon, 2011-2017

Year	Total OR electricity sector emissions (MTCO2e)**	Total OR Green-e facilities	Total OR Green-e MWh sold	Set-aside allowances for total Green-e generation*	Percent of total electricity sector allowances set aside for Green-e
2011	18,102,354.30	39	436,503	186,823.28	1.03%
2012	17,336,051.80	33	554,485	237,319.42	1.37%
2013	18,261,548.80	32	279,166	119,483.05	0.65%
2014	17,930,804.90	34	399,099	170,814.37	0.95%
2015	18,731,760.40	35	495,686	212,153.61	1.13%
2016	**16,173,808.50**	33	**578,182**	**247,461.90**	**1.53%**
2017		38	697,665	298,600.62	
Total	106,536,328.70	244	3,440,786	1,472,656.25	6.67%
Avg	17,756,054.78	35	491,540.80	**210,379.46**	**1.11%**
Total VRE				389,591.60	2.19%

* Using California's default EF for unspecified power, 0.428 MTCO2e/MWh
** ODEQ data

2. The volume of VRE from facilities built after the baseline is even smaller relative to total covered emissions in the electricity sector.

It may be that a set-aside is only needed for VRE built after the baseline year and increased generation at existing VRE facilities after the baseline year, as existing VRE has already lowered the baseline and cap trajectory. As shown in Table 2, the same exercise using Green-e data for 2011-2017 and a 2010 baseline showed that a set-aside for post-baseline (post-2010 in this exercise) Green-e generation would represent less than 0.2% of total electricity sector allowances, about 38,000 allowances per year. Again, if Green-e is only about half of total VRE from Oregon, a set-aside for all post-2010 VRE generation would represent about 0.4% of total electricity sector allowances. For the same reasons mentioned above, these are conservative estimates.

Table 2. Example VRE Set-aside for Post-2010 VRE Generation in Oregon, 2011-2017

Year	Total OR electricity sector emissions (MTCO2e)**	No of post-2010 Green-e facilities	MWh from post-2010 Green-e facilities	Percent post-2010 Green-e facilities	Percent MWh from post-2010 Green-e facilities	Set-aside allowances for post-2010 Green-e generation*	Percent of total electricity sector allowances set aside for Green-e
2011	18,102,354.30	0	0	0.00%	0.00%	0.00	0.00%
2012	17,336,051.80	2	102,801	6.06%	18.54%	43,998.83	0.25%
2013	18,261,548.80	7	26,578	21.88%	9.52%	11,375.38	0.06%
2014	17,930,804.90	8	61,592	23.53%	15.43%	26,361.38	0.15%
2015	18,731,760.40	11	108,818	31.43%	21.95%	46,574.10	0.25%
2016	**16,173,808.50**	11	**89,928**	33.33%	15.55%	**38,489.18**	**0.24%**
2017		17	231,511	44.74%	33.18%	99,086.71	
Total	106,536,328.70	56	621,228			265,885.58	0.95%
Avg	17,756,054.78	8	88,746.86			**37,983.65**	**0.16%**
Total VRE						70,340.10	0.40%

* Using California's default EF for unspecified power, 0.428 MTCO2e/MWh
** ODEQ data

3. The VRE market is not only for corporate buyers. In fact, in Oregon, about half the market is sales to residential buyers (individual households voluntarily buying renewable energy).

Based again on historical Green-e sales of Oregon supply, about 75% of utility green pricing program sales in Oregon go to residential customers. In 2017, this amounted to about 321,000 MWh, or 46% of total Green-e sales of Oregon supply.

4. Other solutions can employed to mitigate the impact of a VRE set-aside on foregone auction revenue.

For example, the state could charge a fee for use of the set-aside, perhaps even just for non-residential sales, that is less than the cost of an allowance per ton, and use that revenue to support EJ communities. That may negatively impact use of the set-aside and affect voluntary demand (though perhaps less than not having a set-aside at all), but it may also mitigate the impact of the set-aside on auction revenue.

Accounting for Specified Renewable Imports without RECs

This is an extremely important issue for renewable energy markets and regional power markets in the West. As you know, electricity imported to California can be assigned a specified renewable emissions factor regardless of whether the RECs associated with that power are used in California. The potential for these RECs to be used in other states has led to concerns about double counting. In this case, California's policy on reporting imported emissions under the Mandatory Reporting Regulation (MRR) does not properly account for emissions entering the state as it counts zero-emitting power that is actually being used in other states. By double counting, the state may not actually be addressing the emissions associated with imported electricity. This can also be framed as leakage in the cap-and-trade program.

Oregon should not replicate California's error and compound double counting problems.

The California Air Resources Board's accounting policy for renewable electricity imports is disrupting neighboring Renewable Portfolio Standard (RPS) programs, including Oregon's, as well as regional wholesale power markets. Double counting of zero-emissions power threatens the integrity of RPS markets and may either limit supply and drive up costs or reduce the impact of RPS on the development of renewable energy. Concerns about double counting are already causing confusion and reducing the amount of renewable energy participating in the Energy Imbalance Market (EIM).[2] This problem is likely to grow substantially as the role of the EIM increases to support the regional wholesale market transactions of renewable energy that will be critical to meeting state renewable energy and carbon goals in the West.

Earlier this month, CRS sent a letter to the newly formed Independent Emissions Market Advisory Committee (IEMAC) in California, alerting the committee to the imports accounting issue. Two different committee members included reference to the issue and CRS in the Committee's final report (see pg. 14, 31-32, 38, App.A pg.1).

Our letter lays out a few solutions to avoid double counting. The first is, naturally, to require that the RECs associated with imported power also be imported in order for reporting entities to report zero-emissions renewable imports and avoid a compliance obligation under cap-and-trade. If this cannot be done, Oregon can explicitly state that the assignment of emissions to imported electricity under cap-and-trade does not automatically result in delivery of electricity with that emissions profile to retail customers in the state, and that delivery of renewable energy can only be supported with REC delivery and retirement by or on behalf of customers in that state. In this case, the statement should be accompanied and reinforced by clear power source disclosure (PSD) rules that require RECs for all retail claims to renewable energy or its attributes (e.g. direct emissions).

Here is some example language for you to consider:

> *Assignment of the emissions factor of a renewable generator to imported power per Sec. [X] of the [emissions reporting regulation for cap-and-trade] does not represent an assignment of that emissions factor to retail load in Oregon, or a claim to the environmental attributes of that power, including the direct emissions of generation, by or on behalf of electricity customers in Oregon.*
>
> *The state's regulation of emissions associated with imported electricity under Cap-and-Trade and reporting of such emissions under the [emissions reporting regulation] make no claim to the renewable energy certificates associated with such imports.*
>
> *The state affirms, per OR. ADMIN. R. § 330-160-0015 (17), that renewable energy generation and any of its attributes, including but not limited to direct greenhouse gas emissions, can only be claimed or reported as delivered to or consumed by customers in Oregon with delivery and retirement of the renewable energy certificates associated with that generation by or on behalf of those customers.*

[2] See presentations at the Sept 7, 2017 EIM Regional Issues Forum, available at: https://www.westerneim.com/Pages/Governance/RegionalIssuesForum.aspx.

In summary, to avoid double counting, source-based GHG accounting protocols must either remain entirely separate from accounting for delivered emissions based on existing market instruments in RPS and PSD, or they must be synchronized with that accounting for aspects of cap-and-trade that regulate delivered emissions (attributes).

Additional Resources

- Advocacy Positions to Support Corporate Renewable Energy Procurement Under Greenhouse Gas Regulation in the Power Sector
- Voluntary Renewable Energy Set-Asides For Cap-And-Trade (Fact Sheet)
- CRS Presentation at EIM Regional Issues Forum 9/7/2017
- Corporate and Voluntary Renewable Energy in State Greenhouse Gas Policy: An Air Regulator's Guide

We would be happy to provide additional input and information at any time.

Thank you.

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