Advocacy Positions to Support Corporate Renewable Energy Procurement Under Greenhouse Gas Regulation in the Power Sector

CRS center for resource solutions

Advocacy Positions

Corporate and other voluntary green power procurement strategies can offer huge additional greenhouse gas (GHG) benefits on top of regulations like cap-and-trade—provided the right policy and accounting mechanisms are in place. CRS has developed the following advocacy positions to support GHG regulations in the power sector and protect voluntary demand and private investment in renewable energy.

States Considering GHG Regulation in the Power Sector (e.g. Oregon, Washington, Virginia)

- In designing and implementing their programs, states should be as consistent as possible with existing state GHG programs in California and the Regional Greenhouse Gas Initiative (RGGI).

- Voluntary and corporate renewable energy procurement is a significant driver of emissions reductions in the power sector. States should protect this driver and achieve additional emission reductions by including an allowance set-aside or otherwise lowering the GHG emissions limit on behalf of the voluntary renewable energy market.

- If emissions associated with imported power are included in the regulation, states should synchronize accounting for these emissions with accounting for renewable energy in RPS and voluntary markets in order to avoid double counting and maintain market integrity. States should require that renewable energy certificates (RECs) associated with imported power generation also be imported for reporting specified emissions from an importing renewable facility. These RECs should be clearly identified in the REC tracking system.

Delaware

- Delaware is the only state participating in RGGI that did not include a voluntary renewable energy set-aside provision in its regulation. Delaware should adopt the VRE allowance set-aside provision in the RGGI model rule to create additional emissions reductions and remove the barrier to investment.[1]

1. See Joint Stakeholder Comments for the March 1, 2016 Public Workshop and Listening Session Regarding the Delaware Clean Power Plan for more information. Available at: resource-solutions.org/document/030116/.

California and other Regional Greenhouse Gas Initiative (RGGI) states

- Existing voluntary renewable energy set-aside mechanisms in both California and RGGI states can be strengthened by making retirements automatic based on voluntary generation and purchasing data, which can be obtained from REC tracking systems, certification programs like Green-e, and/or other data sources for onsite solar. This would allow the set aside to cover the whole voluntary market and put additional downward pressure on the cap to reduce additional emissions.

- California and RGGI states should reduce uncertainty about supply of set-aside allowances by committing to allocate and retire allowances through a voluntary renewable energy set aside to cover all voluntary sales sourcing from affected supply for the lifetime of the program.

California

- To properly account for emissions associated with imported electricity and prevent leakage, the California Air Resources Board (CARB) should either amend the Mandatory Reporting Regulation (MRR) to require that RECs be imported with imported electricity from renewable resources that is assigned a specified emissions factor, or publicly state that assignment of the specified emissions factor of a renewable generator to imported power does not automatically result in delivery of electricity with this emissions profile to retail customers in California, and that such a delivery claim can only be supported with REC delivery and retirement by or on behalf of California customers.

- The RECs associated with power that has been imported to California should be clearly identified in the Western Renewable Energy Generation Information System (WREGIS).

Resources

Additional explanation of these positions is provided in the sections below. CRS has also created two resources for state air regulators that provide detailed explanation and guidance on interactions between carbon regulation in the power sector and voluntary renewable energy markets:

- *Corporate and Voluntary Renewable Energy in State Greenhouse Gas Policy: An Air Regulator's Guide*
- *Voluntary Renewable Energy Set-Asides for Cap-and-Trade (Fact Sheet)*

Complementary Policies and Trends

Regulation of GHG emissions from the power sector (e.g. cap-and-trade) is a proven and effective solution for climate change mitigation. The power sector accounts for nearly 30% of total GHG emissions in the U.S.[2] Well-established cap-and-trade programs in California and nine other states participating in the RGGI program in the Northeast cover about 8% of U.S. power sector emissions.[3] Other states have considered similar regulations (e.g. Oregon, Washington, and Virginia), and the EPA's recent Clean Power Plan looked like it might create "mass-based" carbon policy across the country until it was repealed. While other policies, programs and trends also affect GHG emissions from the power sector, these regulatory programs provide an effective backstop and price on carbon that ensure reductions from the power sector over time to meet long-term, science-based climate goals.

Demand for green power is also increasing dramatically in the U.S. States are increasing RPS requirements on electricity suppliers to source more electricity from renewable and zero-emissions sources. California recently passed a bill to increase its RPS to 60% renewable power by 2030 just after it also extended its cap-and-trade program to 2030. The other nine states in RGGI also recently agreed to tighten the cap on emissions from the electricity sector in 2014, while New York increased its Clean Energy Standard to 50% by 2030.

Recent growth of corporate and other voluntary procurement of green power has been even more dramatic. In 2016, over six million electricity customers across the country voluntarily purchased about 95 million megawatt-hours (MWh) of green power,[4] which is about the amount of total electricity consumption in the state of Louisiana, or 2% of total U.S. electricity sales. The overall voluntary market for renewable energy is growing at more than 10% per year,[5] acting as a significant driver for new clean generation capacity. In fact, in 2015 and 2016, the majority of renewable capacity additions—60% and 55% respectively—were made outside of RPS requirements.[6] Within this, direct corporate procurement and long-term engagement with individual green power projects has skyrocketed in the past five years. 2018 has already seen a record number of corporate purchase agreements (PPAs) with over seven gigawatts of new green power.[7]

2. See https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions.
3. Based on data from the U.S. Energy Information Administration (EIA) (www.eia.gov/environment/emissions/state/) and California (www.arb.ca.gov/cc/inventory/data/data.htm).
4. O'Shaughnessy, E. et al. (October 2016). Status and Trends in the U.S. Voluntary Green Power Market (2015 Data). National Renewable Energy Laboratory (NREL). Technical Report NREL/TP-6A20-67147. Available at: www.nrel.gov/docs/fy18osti/70174.pdf.
5. Ibid.
6. Barbose, G. (2017). U.S. Renewable Portfolio Standards: 2017 Annual Status Report. Lawrence Berkeley National Laboratory. p. 14. Available at: eta-publications.lbl.gov/sites/default/files/2017-annual-rps-summary-report.pdf.
7. See www.utilitydive.com/news/corporate-clean-power-purchases-reach-72-gw-surpassing-2017-record/529389/?mc_cid=659671e1eb&mc_eid=0790f774fb.

These three types of policies and markets—GHG regulation in the power sector (e.g. cap-and-trade), RPS, and voluntary renewable energy markets—can coexist and complement each other. Broadly speaking, "source-based" carbon regulation like cap-and-trade does not affect the claims of RPS ratepayers and corporate renewable energy purchasers to be receiving zero-emitting power. Likewise, the delivery of renewable energy and zero-emissions power to customers through the RPS and voluntary purchases does not affect the reporting or direct regulation of emissions from sources in the electricity sector or the trading of emissions allowances between obligated parties. Furthermore, delivery of green power to meet RPS and voluntary demand helps lower GHG emissions from the power sector, and the price on carbon in the power sector provides an economic advantage to clean power, which may also be used to meet the RPS or sold to voluntary customers.

But carbon regulation in the power sector does affect the accounting and benefits of renewable energy programs, in two primary ways.

Interaction 1: Imported Electricity

States may choose to regulate both emissions from electricity generators located in the state and emissions associated with electricity that is imported to the state, depending on how much and what type of power is imported to meet electricity demand. California's cap-and-trade program is one example, covering both emissions from in-state generators and emissions from imported electricity.

Whereas emissions from in-state generation facilities can be directly measured and regulated at the source, without affecting whether that generation is delivered to customers inside or outside the state, emissions from generation located outside the state often cannot be directly regulated. Instead, the state may regulate the delivery of emissions from power generation to the state at the point of the in-state importer, where emissions cannot be directly measured. This is also the case in California.

In both RPS and voluntary renewable energy markets, the REC is the essential accounting instrument used to verify delivery of power from renewable sources to customers, since this is not otherwise possible on a shared grid. The REC conveys a claim to all environmental attributes of the generation, including the renewable fuel source and the emissions profile, since one determines the other. These attributes cannot be split or double counted without undermining the intent of the RPS policy and the basis for voluntary demand.

Regulating emissions associated with imported power also requires tracking and verifying the delivery of emissions as an attribute of power generation, and it therefore affects RECs, RPS, and voluntary renewable energy markets. It could potentially double count another state's RPS or voluntary program. If the power from

an out-of-state wind facility is delivered to the state and counted as zero-emissions power for cap-and-trade and the RECs associated with that power are not also consumed in that state, then there is double counting. The state or region with cap-and-trade will be reporting that zero-emissions power has been delivered to that state or region while the RPS program or voluntary customer in a different state will also be claiming consumption of that same MWh of zero-emissions power in their state based on the REC. In this case, the RPS or voluntary customer are not having the intended demand-side impact on GHG emissions in the sector, and there is leakage in the cap-and-trade program—the state is not actually addressing the emissions associated with imported electricity.

As an example of this, California's policy for accounting for emissions associated with imported power does not require RECs to be imported in order for the state to count and report a specified renewable import into California and in order for the importer to avoid a compliance obligation under cap-and-trade on the basis of delivery of zero-emissions power.[8] The RECs associated with power imported to California can be used in other states and there is potential double counting. California, Oregon, WREGIS (the REC tracking system for the western U.S.), and the western Energy Imbalance Market, are all, as of publication, still evaluating questions around RECs associated with imports into California. Oregon in particular is considering whether to allow those RECs for compliance in its RPS.

Solution: RECs with Electricity Imports

The simplest solution to avoid double counting is to synchronize the accounting for imports of specified renewable power in cap-and-trade with the accounting mechanism for delivering renewable energy to customers in renewable energy markets. In other words, require that the RECs associated with imported power also be imported in order for regulated entities to report zero-emissions renewable imports and avoid a compliance obligation under cap-and-trade.

If not, the state can explicitly state that the assignment of emissions to imported electricity under cap-and-trade does not automatically result in delivery of electricity with those emissions 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.

Regardless, the RECs associated with power that has been counted as a zero-emissions import under cap-and-trade should be identified in the REC tracking systems, so that other state and voluntary programs can identify and choose whether or not to accept them.

Interaction 2: Avoided Emissions and Impact for Voluntary Buyers

The second way that GHG regulation in the power sector affects renewable energy markets is by changing the effect that renewable energy generation can have on grid emissions, which has important implications for voluntary buyers of that generation.

Renewable energy generation produces fewer emissions than other resources, and zero emissions for sources like wind and solar. As a result, it avoids grid emissions as emitting sources are displaced with non-emitting or lower emissions sources. In both compliance and voluntary renewable energy markets, both of these benefits are conveyed to consumers using RECs. REC owners and RPS ratepayers can claim to be consuming power with the GHG emissions profile of the renewable resources—zero for wind and solar—and that emitting generation was displaced or avoided on the grid as a result of the renewable generation they are using.

The second benefit—the extent to which renewable energy generation avoids or reduces emissions on the grid—is also the extent to which voluntary purchasing activity is driving emissions reductions beyond compliance and making a difference to emissions or moving the needle on climate change.

Under cap-and-trade and other GHG regulations in the power sector, while renewable energy generation reduces emissions from the sector, it does not affect the level of emissions that is allowed by regulation (e.g. the cap). Emissions cannot exceed this level and emissions reduced below it can be reversed or made up

8. Sec. 95111(a)(4) and 95111(g)(1)(M)(3) of California's Mandatory Reporting Regulation (MRR).

elsewhere. Renewable energy simply frees up room under the cap for more emissions. As a result, there is no net change to emissions at regulated sources due to renewable energy generation or other activities that reduce generation at regulated plants.

In addition, regulated emitting facilities whose generation has been displaced by renewable energy generation automatically report lower emissions due to that generation. Those emissions reductions due to renewable energy (the effect of renewable energy on the grid) are being automatically counted toward compliance. Renewable energy generation effectively makes it easier for regulated entities to comply with GHG regulations.

Voluntary renewable energy set-asides may allow states the opportunity to capture private investment dollars.

This represents an important change to the value and regulatory status of the benefits of renewable generation that has important implications for voluntary demand for renewable energy. First, voluntary demand for renewable energy has a reduced impact on emissions. Historically, it has been important to voluntary consumers and investors that their renewable energy not only generates zero emissions, but that it has some effect on emissions on the grid, which is does not with GHG regulations in the power sector. Second, renewable energy generation is not "surplus to regulation." Voluntary renewable energy can have no GHG impact at regulated units beyond what is already required, and it subsidizes compliance for regulated entities. As voluntary renewable energy generation reduces emissions that can be counted toward compliance, voluntary purchases help reduce the cost of GHG compliance, making it cheaper and easier for fossil units to comply.

Both demand side impact on emissions and impact beyond what is required drive voluntary demand, so voluntary demand for renewable energy may suffer under GHG regulations in the power sector.

Solution: Voluntary Set-Asides and Adjusting GHG Limits for Voluntary Renewable Energy

To protect voluntary demand and the non-RPS driven half of new capacity additions—that majority of new renewable capacity additions and a huge source of emissions reductions—states can adjust regulatory GHG limits on behalf of voluntary renewable energy generation. In cap-and-trade, only the retirement of allowances will affect the overall level of emissions. So, cap-and-trade programs can include allowance "set-asides" (also called reserves or reserve accounts), in which allowances are set aside and periodically retired on behalf of the voluntary market, effectively lowering the cap or emissions budget on its behalf. This counteracts the automatic counting of emissions reductions associated with voluntary renewable energy and explicitly recognizes emissions reductions from voluntary renewable energy as incremental to what would otherwise be achieved through cap-and-trade.

Without a set-aside, voluntary renewable energy purchasers would have to independently buy and retire allowances (i.e. pay the price of carbon) to achieve regulatory surplus and restore their emissions benefits, which would represent a significant increase in the price of voluntary renewable energy.

To the extent that they help maintain voluntary demand and prevent it from shifting outside the capped region to avoid a significant price increase, voluntary renewable energy set-asides may allow states the opportunity to capture the private investment dollars that may otherwise go elsewhere.

Both California and eight of the nine states participating in the RGGI program have adopted an allowance set-aside for voluntary renewable energy in their cap-and-trade/ETS programs. Experience in both California and RGGI has also indicated that the cost of this set-aside mechanism is minimal since the decrease in supply of allowances (and corresponding increase in price) is offset by the decrease in demand for allowances due to reductions from voluntary renewable energy (and corresponding decrease in price).

Delaware is the only state in RGGI—and the only U.S. state with cap-and-trade—without a set-aside mechanism for the voluntary market. Without the set-aside, customers in Delaware cannot buy Green-e certified renewable energy from Delaware or other RGGI states, and Delaware cannot sell Green-e® certified renewable energy to in-state customers. This means that voluntary buyers in Delaware must get their certified renewable energy from outside of the RGGI region. Adoption of the set-aside would allow for this demand to be met by resources in Delaware and RGGI. Other RGGI states would also benefit in that RGGI generation could be sold in Green-e certified products to customers in Delaware.

Conclusion

Environmental advocates can support GHG regulation in the power sector, RPS, and corporate and voluntary renewable energy at the same time. But these policies and programs should build on each other. The advocacy positions and policy solutions above are directed at sustaining our progress, achieving more mitigation faster, lowering the costs of compliance and emissions reductions overall, and enabling private investment and voluntary action. GHG regulation should not represent a ceiling for reductions in the power sectors. •

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