Voluntary Renewable Energy Set-Asides For Mass-Based State Plans

Published August 26, 2016

As states design compliance plans for the EPA's Clean Power Plan (CPP), it is important to address the impact of these plans on renewable energy development, and in particular private investment in and use of renewable energy (i.e. the voluntary renewable energy market).

Implementation of a mass-based emissions trading program (e.g. cap-and-trade) is one compliance path that state regulators can consider to comply with the CPP. Such a program would require affected electric generating units (EGUs) or other regulated entities to hold tradable allowances (i.e. permits) to cover their carbon dioxide (CO2) emissions. These programs reduce the total amount (mass) of emissions from affected EGUs over time by lowering the number of allowances available. They also impose an emissions penalty by putting a price on CO2 emissions.

Without careful design, mass-based emissions limits ("caps" or performance standards) in the power sector can damage the voluntary market for renewable energy—where individuals and businesses choose to buy clean, renewable energy or build their own clean energy generation capacity. Mass-based state plans can easily address this issue through plan design in order to avoid negative impacts to voluntary demand for and private investment in renewable energy.

The voluntary renewable energy market is important in every state

Thousands of businesses and millions of individuals in every state across the country voluntarily purchase green power and thousands of renewable energy generators across the country supply it to them, amounting to billions of kilowatt-hours of renewable energy annually.[1] The latest report on the voluntary renewable energy market from the National Renewable Energy Laboratory (NREL) shows that the amount of renewable energy purchased through the voluntary market represents approximately 2% of total U.S. electricity sales and is growing at 10% per year.[2] The voluntary renewable energy market represents 26% of all non-hydro renewable generation nationally and is equivalent in size to 58% of combined state Renewable Portfolio Standard (RPS) markets from facilities built within the last 15 years.[3] Other reports show that corporate buyers invested in more than three gigawatts (GW) of new renewable energy capacity in 2015,[4] and more than half of new U.S. utility-scale solar in 2016 will be built to serve voluntary customers.[5]

Alongside state mandates like RPS and direct regulations such as the CPP, the voluntary renewable energy market has been a major driver of new clean energy development in this country, leading to more jobs and greater economic growth for states. The market leverages private, non-ratepayer funding to help speed the transition to renewable energy sources, and it provides a pathway whereby the appetite for voluntary action can be channeled to in-state clean energy development.

The fight against climate change is a key driver of voluntary demand for renewable energy

Many of the companies and individuals purchasing in the voluntary renewable energy market do so as part of their commitment to fight climate change. Voluntary market driven renewable energy displaces emitting generation and avoids emissions on the grid, and consumer preferences for renewable energy can drive more reductions than those achieved by policy mechanisms alone.

Voluntary means surplus to regulation

Historically, voluntary renewable energy is not used to meet governmental targets, laws, or legal mandates. It is essential that renewable energy is not double counted, such that each megawatt-hour (MWh) sold is delivered to

and consumed once by a single party. But beyond this, the voluntary market stands apart from compliance efforts. The voluntary market builds on, rather than competes with the compliance markets. As a result, we have seen the greatest amount of voluntary market activity occur in the areas with the most compliance-driven renewable energy development.

Corporate and other voluntary commitments to renewable energy go beyond what is required by state or federal policy. Voluntary buyers expect their investments to support renewable energy that actually reduces emissions, not to simply provide voluntary compliance or reduce the costs of compliance for regulated entities. This enables the voluntary market to make an incremental difference often referred to as "regulatory surplus."

Without proper accommodation for voluntary renewable purchases in mass-based program design, voluntary investments in clean energy will cease making a real difference to CO2 emissions at affected EGUs—the CPP will have the unintended consequence of reducing the demand-side impact of voluntarily purchasing renewable energy.

Mass-based CPP compliance will automatically count emissions reductions from voluntary renewable energy

Where states choose a mass-based CPP compliance path and/or adopt a cap-and-trade program, anything that reduces either emissions or generation at affected EGUs is automatically reflected in the mass and counted toward compliance. This includes renewable energy, which displaces generation at affected EGUs, reducing generation and avoiding emissions. Emissions reductions at affected EGUs that are due to voluntary renewable energy generation are no longer surplus to regulation. Rather, voluntary purchases of renewable energy will be supporting state CPP compliance, making it easier for fossil fuel generating units to comply.

The voluntary market will not be achieving emission reductions beyond the cap or mass-based target, but instead simply shifting the costs away from those regulated under the CPP and onto those taking voluntary action. Once the mass-based target or cap-and-trade program is in place, voluntary renewable energy generation reduces emissions at regulated units but will not affect the level of allowed emissions from these units. It frees up allowances or room under the cap for regulated entities to emit more and each voluntary purchaser of renewable energy that chooses to clean up their electricity supply will just allow more emitting activity elsewhere.

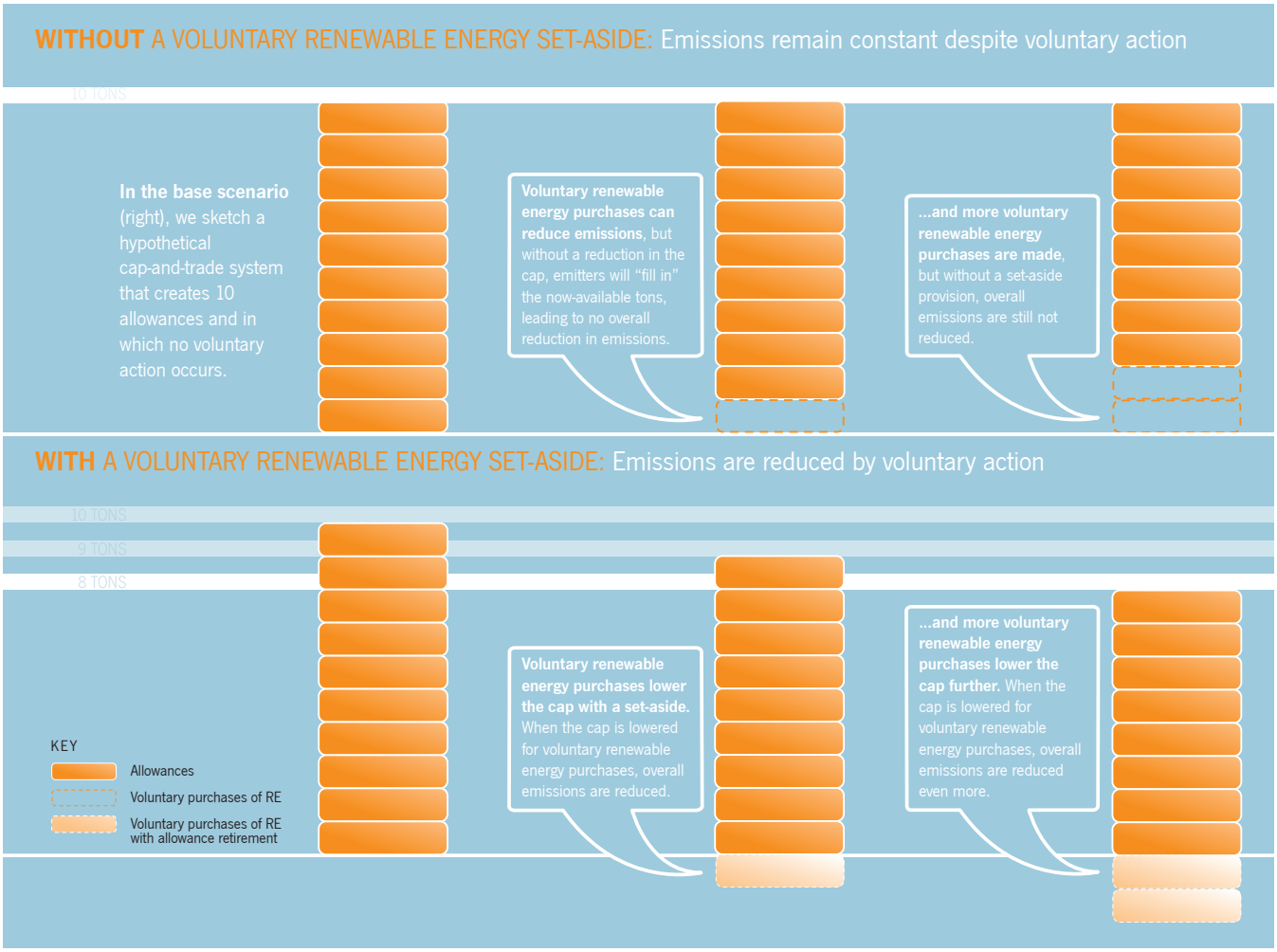
Unless the voluntary market reduces emissions beyond what is required under the CPP, voluntary demand for renewable energy may suffer

Without regulatory surplus, the capped level becomes the ceiling for emissions reductions instead of the floor. This would discourage all actors, and specifically corporate customers, from making private investments in renewable energy. Without explicit recognition of the emissions reductions from the voluntary market, a principal driver of these investments may be lost. The result would not just be negative impacts on the overall growth of renewable investments, but also the elimination of the CPP compliance contributions that strong voluntary renewable energy markets otherwise present. Experience with RPS demonstrates that both compliance and voluntary markets are more successful when they are designed to operate on a side-by-side basis.

An allowance "set-aside" for voluntary renewable energy is a proven mechanism to sustain voluntary demand for renewable energy with cap-and-trade

Companies and individuals willing to go beyond compliance levels can continue to drive GHG emissions reductions, provided that state plans are properly structured. To restore regulatory surplus and allow the voluntary market to continue to affect emissions beyond what is required by law—and to avoid potentially discouraging corporate actors from making private investments in renewable energy in the state—mass-based state plans must include a mechanism that effectively lowers the cap or emissions budget to explicitly recognize emissions reductions from voluntary renewable energy as incremental to what would otherwise be achieved due to the CPP.

Mass-based emissions trading programs should include an allowance set-aside mechanism for voluntary renewable energy, which involves setting aside and retiring allowances equivalent to the amount of CO2 emissions avoided due to voluntary clean energy purchases and consumption. Doing so will restore regulatory surplus and restore the avoided grid emissions benefit for voluntary renewable energy.



A voluntary renewable energy set-aside will be good for the state economically

A voluntary renewable energy set-aside provides a pathway whereby the appetite for voluntary action can be channeled to clean energy development in the state, and avoids a situation whereby the willingness to invest in voluntary action is diverted to out-of-state projects.

Green-e® is the leading standard and certification for voluntary renewable energy in the U.S., and it currently requires allowance retirement for certified renewable energy in regions in the U.S. with power sector emissions limits in order to meet consumer expectations. If a CPP state plan is adopted and implemented without a voluntary renewable energy set-aside mechanism, Green-e may be unable to continue to certify voluntary sales of renewable energy from the state, or the additional cost of allowance retirement to the voluntary purchaser may preclude certified sales from generation in the state. This would mean that voluntary buyers in these states will get their certified renewable energy from outside of the state in the future. A voluntary renewable energy set-aside will allow for this demand to be met by resources in the state—allowing your state the opportunity to maintain the private investment dollars that may otherwise go elsewhere—and this could prevent a loss of revenue from voluntary purchasers for in-state generation.

Voluntary renewable energy set-asides have already been implemented in California and the Regional Greenhouse Gas Initiative (RGGI)[6]

States could choose to model a voluntary renewable energy set-aside in their plans after either California or the RGGI model rule. States in RGGI set aside allowances based on actual generation (supply used for voluntary sales) submitted by the voluntary market. The states may have caps on the total number of allowances that can be set aside. The seller or voluntary consumer using renewable energy supply from within the RGGI footprint applies to the set-aside in the RGGI state in which the voluntary sale was made. In California, the state has set a fixed amount of allowances to set aside for the voluntary renewable energy market. The number of allowances available is calculated based on an estimate of the amount of voluntary renewable energy sales. The seller or voluntary consumer applies to the set-aside for any in-state or imported generation.

Voluntary renewable energy set-asides have garnered wide support from a broad group of stakeholders

When adopted in California, over 50 organizations publically supported such a policy, including energy companies, project developers, environmental and public health advocates, industry associations, academic institutions, and others.[7] The Natural Resources Defense Council (NRDC), Pace Energy and Climate Center, Renewable Northwest, the Solar Energy Industries Association (SEIA), the Union of Concerned Scientists (UCS), and others supported such an approach in the context of the CPP.[8]

The voluntary renewable energy market has been a major driver of emissions reductions beyond what can be attributed to other policies and programs. Without proper accommodation for and recognition of the voluntary market in CPP state plans, these emissions reductions may be lost. A set-aside for the voluntary market is a proven and simple mechanism that states can incorporate into state plans at little cost that would maintain the carbon benefits of voluntary renewable energy without substantially increasing in the cost for voluntary buyers. This will allow the voluntary market to continue to grow and reduce emissions.

Additional information is available from Center for Resource Solutions (CRS), along with the following resources:

RESOURCES

- Renewable Energy in the EPA Clean Power Plan. Parts 1 and 2: Introduction to Emission Rate Credits and Interactions With and Impacts on RECs and Renewable Energy Markets, October 16, 2015, http://resource-solutions.org/site/wp-content/uploads/2015/10/Renewable-Energy-In-the-EPA-CPP-1.pdf and http://resource-solutions.org/site/wp-content/uploads/2015/10/Renewable-Energy-In-the-EPA-CPP-2.pdf.
- RGGI State Set-Aside Provisions for Voluntary Renewable Energy (VRE), Draft August 21, 2009, http://www3.epa.gov/greenpower/documents/events/rggi_status_table.pdf.
- Support Voluntary Purchases of Clean, Safe, 21st Century Energy With an Off-the-Top Rule Under Cap and Trade, May 18, 2009, http://resource-solutions.org/site/wp-content/uploads/2015/08/CT-Policy-Brief.pdf.
- Implications of Carbon Regulation for Green Power Markets, April 2007, http://apps3.eere.energy.gov/greenpower/resources/pdfs/41076.pdf.
- Joint Letter in Support for Voluntary Renewable Energy Set-Aside in the Proposed California Cap-and-Trade Program, December 13, 2010, http://resource-solutions.org/site/wp-content/uploads/2015/08/Voluntary-Renewable-Set-Aside_12-13-10.pdf.
- Comments of Renewable Energy markets Association (REMA) on a Western Climate Initiative (WCI) paper, February 19, 2010, http://www.renewablemarketers.org/pdf/file_111.pdf.
- Letter to Senator Boxer on Recommended Changes to Cap-and-Trade Design Under ACESA to Support the Voluntary Renewable Energy Market, July 23, 2009, http://resource-solutions.org/site/wp-content/uploads/2015/08/Senate_EPW__off_the_top_072309.pdf.
- Coalition letter to Kevin Kennedy, CARB Office of Climate Change on the issue of off-the-top treatment of voluntary renewable energy purchases, June 7th, 2010, http://www.resource-solutions.org/pub_pdfs/nonprofit_and_clean_energy_coalition_7_7_2010.pdf.
- Letter to Claudia Orlando, California Air Resources Board supporting off-the-top approach to voluntary renewable energy purchases in a California cap-and-trade program, June 12th, 2009, http://resource-solutions.org/site/wp-content/uploads/2015/08/Center-for-Resource-Solutions-comment.pdf.

ENDNOTES

1. For more information about the importance and impact of voluntary green power purchasing, visit http://www.epa.gov/greenpower/. Also see NREL's market analysis at http://www.nrel.gov/analysis/market_green_power.html.
2. O'Shaughnessy, E. et al. (October 2015). Status and Trends in the U.S. Voluntary Green Power Market (2014 Data). National Renewable Energy Laboratory (NREL). Technical Report NREL/TP-6A20-65252. Available at: http://www.nrel.gov/docs/fy16osti/65252.pdf.
3. Based on figures from O'Shaughnessy, E. et al. (October 2015). Status and Trends in the U.S. Voluntary Green Power Market (2014 Data). National Renewable Energy Laboratory (NREL). Technical Report NREL/TP-6A20-65252. Available at: http://www.nrel.gov/docs/fy16osti/65252.pdf.
4. http://www.aweablog.org/the-rise-of-the-non-traditional-energy-buyer/
5. http://www.greentechmedia.com/articles/read/us-utility-scale-solar-market-fueled-by-growth-beyond-renewable-portfolio-s
6. See title 17, CCR, section 95841.1. See Section XX-5.3(d) of the RGGI Model Rule, 12/31/08 final with corrections.
7. See the previous comments on voluntary renewable energy set-aside mechanisms listed below.
8. See Endorsements listed at http://resource-solutions.org/cpp-comment-guidance.