



CRS

center for
resource
solutions

February 26, 2018

Dr. Nick Hutson
Energy Strategies Group, Sector Policies and Programs Division
Environmental Protection Agency (EPA)
EPA Docket Center (EPA/DC), Mail Code 28221T
1200 Pennsylvania Avenue, NW
Washington, DC 20460

RE: Docket ID No. EPA-HQ-OAR-2017-0545. Comments of Center for Resource Solutions (CRS) in response to Advance Notice of Proposed Rulemaking on State Guidelines for Greenhouse Gas Emissions from Existing Sources

Dear Dr. Hutson:

CRS appreciates this opportunity to comment on the December 28, 2017 Advance Notice of Proposed Rulemaking on State Guidelines for Greenhouse Gas Emissions from Existing Sources (“ANPRM”). Our comments are limited to the benefits of incorporating a mechanism to protect voluntary and corporate renewable energy demand, purchasing, and emissions benefits under potential regulation of greenhouse gas (GHG) emissions from electric utility generating units (EGUs). We have written extensively on this issue, including the recent *Corporate and Voluntary Renewable Energy in State Greenhouse Gas Policy: An Air Regulator’s Guide* (2017)¹ and *Voluntary Renewable Energy Set-Asides for Cap-And-Trade (Fact Sheet)* (2017)². We encourage you to consider these materials as well during the design of any potential new rule establishing guidelines for GHG emissions from existing EGUs.

Background on CRS and Green-e®

CRS is a 501(c)(3) nonprofit organization that creates policy and market solutions to advance sustainable energy. Since 1997, CRS has been instrumental in the development of state, regional, and national renewable energy policies and markets. CRS has provided regular technical assistance and guidance to states, federal agencies, electricity attribute tracking systems, and market participants across the country. CRS also administers the Green-e programs. Green-e is the leading certification program for voluntary renewable electricity products in North America. For over 20 years, Green-e has verified renewable energy purchases in the voluntary market to provide consumer protection and protect against double counting. In 2016, Green-e certified retail sales of over 48 million MWh, representing over 1.3% of the total U.S. electricity mix. In 2016, there were over 963,000 retail purchasers of Green-e certified renewable energy, including 53,000 businesses.

Comments

¹ Available online at: <https://resource-solutions.org/wp-content/uploads/2017/10/Corporate-and-Voluntary-RE-in-State-GHG-Policy.pdf>.

² Available online at: <https://resource-solutions.org/wp-content/uploads/2017/11/Voluntary-RE-Fact-Sheet.pdf>.

1. The U.S. voluntary renewable energy market has produced clear environmental and economic benefits and reduces compliance and regulatory costs.

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.³ Reports on the voluntary renewable energy market from the National Renewable Energy Laboratory (NREL) show 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.⁴ The voluntary renewable energy market represents 25% of all non-hydro renewable generation nationally and is equivalent in size to 61% of combined state compliance or Renewable Portfolio Standard (RPS) markets from facilities built within the last 20 years.⁵ Other reports show that leading corporate buyers invested in nearly six gigawatts (GW) of new renewable energy capacity in the past three years alone.⁶ In 2015 and 2016, the majority of renewable capacity additions have been made outside of state-mandated renewable energy requirements, 60% and 55% respectively,⁷ and a significant portion of this has been built to serve voluntary customers.

Separate from regulatory mandates, 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. The market leverages private, non-ratepayer funding to support renewable energy sources, and it provides a pathway whereby the appetite for voluntary action can be channeled to clean energy development.

This voluntary, market-based solution leverages private investment to reduce the environmental and health impacts of electricity generation. The voluntary renewable energy market allows the economy to reduce air pollution and other environmental impacts at lower costs, and it allows the private sector to create demand for reducing air pollution that reduces the need for regulations or taxes. In addition, voluntary markets stimulate the economy by incentivizing investments in energy, which create new jobs in manufacturing, project development, building and construction, operations and maintenance, and other segments of the renewable energy economy. Voluntary markets also create supportive industry, including jobs in marketing and sales, consulting, asset management, market analysis, and IT tools, etc.

³ See <http://www.epa.gov/greenpower/>. Also see the National Renewable Energy Laboratory's (NREL's) market analysis at http://www.nrel.gov/analysis/market_green_power.html.

⁴ Based on figures from 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. Using 2015 total US electricity sales of 3.7 billion MWh from U.S. Energy Information Administration (EIA): <https://www.eia.gov/electricity/state/unitedstates/>.

⁵ *Ibid.* Using 2015 total non-hydro renewable electricity generation of 309,301 gigawatt-hours (GWh) from EIA. And using 2015 RPS demand from renewables built since the commencement of the RPS of 126,517 GWh, obtained from Lawrence Berkeley National Laboratory (LBNL).

⁶ See Business Renewables Center. (May 2017). *Corporate Renewable Deals 2012-2017*. Rocky Mountain Institute. Available at: <http://businessrenewables.org/corporate-transactions/>.

⁷ See Barbose, G. (2017). *U.S. Renewables Portfolio Standards: Status Update and Review of Costs, Benefits, Impacts*. Presentation to Michigan State IPU Grid School, March 28, 2017. Lawrence Berkeley National Laboratory. Slides 8-9.

Also see Barbose, G. (2016). *U.S. Renewables Portfolio Standards: 2016 Annual Status Report*. Presentation April 2016. Lawrence Berkeley National Laboratory. Available at: <https://emp.lbl.gov/sites/all/files/lbnl-1005057.pdf>.

2. Mass-based regulatory limits on GHG emissions from either individual EGUs or the group of EGUs in a particular state or region affect the claims and benefits of voluntary and corporate renewable energy purchasers, and if not properly designed, they may negatively affect voluntary demand for renewable energy and emissions reductions.

Under mass-based GHG regulation, GHG reductions at regulated EGUs due to renewable energy generation will be automatically counted and reported by those EGUs toward compliance, and since the regulation determines and fixes the level of emissions (at a plant or from the sector), there is no net change to emissions at regulated sources due to renewable energy generation. In this scenario, voluntary renewable energy can have no GHG impact beyond what is already required, and furthermore, 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. This presents a very different value proposition for voluntary and corporate buyers and investors in comparison to circumstances prior to GHG regulation.

Historically, voluntary renewable energy is not used to meet governmental targets, laws, or legal mandates. The voluntary market stands apart from and builds on compliance efforts. This separation enables the voluntary market to make an incremental difference often referred to as “regulatory surplus.” Voluntary purchasers of renewable energy tend to value this incremental impact highly. Renewable energy generation that is counted toward regulatory compliance cannot be considered surplus to regulation.

Regulatory surplus with respect to GHG emissions may be especially important for voluntary demand. Since many of the companies and individuals purchasing in the voluntary market do so as part of a commitment to address GHG emissions, an effect on emissions beyond what is required by law may be a critical non-financial benefit for voluntary purchasers. Where renewable energy sold into the voluntary market does not have an effect beyond compliance and instead only serves to help regulated entities comply with existing regulatory requirements, this changes the effectiveness of voluntary renewable energy as a climate change solution for participating companies and individuals. As such, voluntary demand for renewable energy may decline if these benefits do not remain intact.

3. Policy mechanisms that lower mass-based regulatory limits on GHG emissions from EGUs on behalf of voluntary renewable energy generation have proven effective in states with existing GHG regulations for the power sector and should be used to protect voluntary demand for renewable energy as a driver of emissions reductions.

Mass-based GHG regulatory programs can effectively restore avoided emissions claims and regulatory surplus for voluntary renewable energy by lowering regulatory GHG limits, either at the sector-wide or plant level, on behalf of voluntary renewable energy generation. 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 GHG Regulations. This helps preserve voluntary demand and private investment in renewable energy as drivers of emissions reductions, which can lower the cost of and reduce the need for GHG regulations.

California and eight of nine states participating in the Regional Greenhouse Gas Initiative (RGGI) program have implemented such a solution. These states set a statewide or sectoral “cap” on GHG

emissions from EGUs and issue allowances up to that cap. They lower the cap on behalf of voluntary renewable energy generation by setting aside and retiring allowances for voluntary renewable energy generation.

Where mass-based regulatory limits on GHG emissions are instead set for individual EGUs (at the plant level), the total avoided emissions from voluntary renewable energy must be allocated or assigned to individual plants, and then their compliance obligations can be lowered by that amount. To do this, a regulator can simply apply the percentage of overall emissions represented by the individual plant to the total quantity of avoided emissions from voluntary renewable energy, which will produce an amount of avoided emissions for that plant. Further lowering the compliance obligation for this plant by that amount will effectively restore the regulatory surplus of GHG emissions due to voluntary renewable energy that were attributed to this facility. We provide an example of this in Subsection 8.1.1 (Tables 7–9 and Figures 17–18) of *Corporate and Voluntary Renewable Energy in State Greenhouse Gas Policy: An Air Regulator’s Guide* (2017)⁸.

4. Rate-based GHG regulations—regulatory limits on the GHG emissions intensity of EGUs—also require a mechanism to protect voluntary demand for renewable energy if they include an explicit adjustment to rates to reflect the effect of renewable energy generation.

Rate-based GHG regulations do not have the same effect on renewable energy generation as mass-based GHG regulations. In a mass-based system, measures like renewable energy and energy efficiency substitute zero-emitting generation or energy savings for fossil power generation, and the effect of this is automatically reflected in the metric for compliance—stack emissions at regulated units. Those same measures will not affect the emissions rate of fossil plants (tons/MWh). When end-use energy efficiency or renewable energy avoids generation at a regulated EGU, this reduces both the numerator and the denominator, and therefore the rate does not change.

However, rate-based regulations can include an explicit adjustment to rates to reflect the effect of renewable energy generation. This was the case for the Clean Power Plan (2015), which included an instrument called an Emission Rate Credit (ERC) that was intended to track and account for emissions reductions that could be used to adjust rates in states with rate-based GHG regulations. Under the Clean Power Plan, ERCs could be issued to renewable energy generators and energy efficiency projects and sold to regulated generators for compliance. In this scenario, the regulated generators would use ERCs (denominated in MWh) to adjust their rate for avoided generation by adding them to the denominator, effectively lowering the rate.⁹

Where rate-based GHG regulations, such as the rate-based approach under the Clean Power Plan, issue ERCs (or a similar compliance instrument) for voluntary renewable energy, and those ERCs/instruments are used for compliance, then that voluntary renewable energy is no longer surplus to regulation. To

⁸ Available online at: <https://resource-solutions.org/wp-content/uploads/2017/10/Corporate-and-Voluntary-RE-in-State-GHG-Policy.pdf>.

⁹ For more information see Jones, T. (October 16, 2015). *Renewable Energy in the EPA Clean Power Plan. Part 1: Introduction to Emission Rate Credits*. Center for Resource Solutions. Available at: <https://resource-solutions.org/wp-content/uploads/2015/10/Renewable-Energy-In-the-EPA-CPP-1.pdf>. And Jones, T. (October 16, 2015). *Renewable Energy in the EPA Clean Power Plan. Part 2: Interactions with and Impacts on RECs and Renewable Energy Markets*. Center for Resource Solutions (CRS). Available at: <https://resource-solutions.org/wp-content/uploads/2015/10/Renewable-Energy-In-the-EPA-CPP-2.pdf>.

restore regulatory surplus and to sustain voluntary demand in this case, states can require that ERCs and renewable energy certificates (RECs) be kept bundled together, so that a voluntary REC purchaser also gets the ERC, which is not used for compliance. Alternatively, states can create ERC set-asides on behalf of the voluntary renewable energy market. Each of these alternatives may have consequences in the market that may require complementary regulatory mechanisms, but nonetheless, they represent legitimate avenues to protect voluntary demand for renewable energy in regions subject to rate-based GHG regulation.

Please let me know if we can provide any further information or answer any other questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Todd Jones', with a stylized flourish at the end.

Todd Jones
Director, Policy and Climate Change Programs