
Executive Summary

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Overview
Carbon regulations and regional cap-and-trade programs like the Regional Greenhouse Gas Initiative (RGGI) interact with renewable energy markets in important ways that are often not well understood by policymakers, regulators, and even buyers. In most RGGI states, renewable energy growth complements greenhouse gas ("GHG") strategies. And the voluntary renewable energy market also provides incremental GHG reduction benefits where allowance set-aside mechanisms preserve the emissions benefits of voluntary renewable energy. Set-aside mechanisms under the GHG cap set aside and retire allowances on behalf of the voluntary market. There is an opportunity now to both expand and strengthen these mechanisms, benefitting both the voluntary market and RGGI.

As the country’s first regional cap-and-trade system for carbon dioxide (CO₂), RGGI is a landmark program. But its cap is not currently driving renewable energy development.

Figure 1. Emissions in RGGI States Relative to the RGGI Cap (2009–2016)
Challenges
Voluntary renewable energy generation should translate into GHG cap reductions. Where this does not happen, voluntary renewable energy does not actually reduce emissions over and above regulation, and instead only serves to help regulated entities comply with existing regulatory requirements. There is weak demand for voluntary renewable energy that does not affect statewide GHG emissions. RGGI set an important precedent in establishing the first allowance set-aside mechanism for voluntary renewable energy. If the set-aside can be increased in line with the economic and environmental value that voluntary renewable energy brings to the region, it could also increase the impact of RGGI.

Solutions
There are several ways to improve RGGI’s current renewable energy set aside. First, it can be modified to retire allowances for in-state generation, rather than in-state sales. This may be simpler to administer, and would allow for generation to be sold outside of RGGI with full emissions benefits and Green-e certification. Second, Delaware can adopt the set-aside provision—it is currently the only state in RGGI opting out. Third, automated reporting can capture all voluntary renewable energy sales for all products and programs, and not just Green-e certified. Fourth, state regulators may consider requiring that all voluntary renewable energy sales, products, and programs use the set-aside in order to maintain statewide uniformity in voluntary product quality. Finally, RGGI can introduce an allowance retirement mechanism for non-compliance entities within the RGGI CO₂ Allowance Tracking System (COATS), to allow voluntary buyers located outside of RGGI purchase renewable energy from RGGI states with full emissions benefits.

Figure 2. Voluntary Renewable Energy Set-Aside

WITHOUT A VOLUNTARY RENEWABLE ENERGY SET-ASIDE: Emissions remain constant despite voluntary action

WITH A VOLUNTARY RENEWABLE ENERGY SET-ASIDE: Emissions are reduced by voluntary action

KEY
- Allowances
- Voluntary purchases of RE
- Voluntary purchases of RE with allowance retirement

In the base scenario (right), we sketch a hypothetical cap-and-trade system that creates 10 allowances and in which no voluntary action occurs.

Voluntary renewable energy purchases can reduce emissions, but without a reduction in the cap, emitters will “fill in” the now-available tons, leading to no overall reduction in emissions.

Voluntary renewable energy purchases lower the cap further. When the cap is lowered for voluntary renewable energy purchases, overall emissions are reduced even more.

...and more voluntary renewable energy purchases are made, but without a set-aside provision, overall emissions are still not reduced.