

RGGI: Not a Proven Template for State Action Yet

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Since the launch of the Regional Greenhouse Gas Initiative (RGGI) in 2009, the North Eastern States and the Mid-Atlantic States have seen a significant reduction in the emissions of carbon dioxide and other pollutants emitted by the power sector. At the same time, the region has also reaped significant economic benefits. Through 2016, RGGI states had reduced CO₂ emissions from covered power plants by 40% from 2008, the year before RGGI's program began. RGGI has demonstrated that emissions can be reduced faster and at a lower cost than typically assumed. Against the backdrop of the declining emissions, the RGGI state economies have outpaced the rest of the country demonstrating that climate change mitigation and economic growth can co-exist.

However, despite the impressive achievement of RGGI, it is not a finished product yet. Further changes and reforms are needed if RGGI aims to serve as a template for state action and be an example for its capacity to clean up the power sector while benefiting consumers. In the absence of the Clean Power Plan (CPP), RGGI becomes even more critical to a carbon free future.

Over the past few years, various NGOs and advocacy groups have strongly stressed the reforms needed for RGGI to be even more effective in reducing emissions and meeting the State's climate goals. The three key reforms that the RGGI states have been urged to adopt are:

- a. Correction of the cap reduction trajectory to attain the necessary long-term reductions;
- b. Restructuring or removal of the cost containment reserve to achieve the emission reduction targets;
- c. Extending the RGGI cap to at least 2030 to provide clarity to the market.

While the above proposed reforms are certainly critical, the reforms are not limited to those alone. The objective of this paper is to bring into focus other areas of concern; while these concerns have been highlighted in the past, they have not been much in the forefront of the discussions on the reforms required.

- *Assumptions in the reference case need to be reworked:* RGGI states need to correct some of the assumptions in the reference case that they use to help understand the level of effort needed to achieve future RGGI caps. Firstly, the RGGI states need to account for the newly extended renewable energy tax credits that will drive significant investment in solar and wind energy. These tax credits are poised to bring another 50-55 GW of renewable energy nationally. The

additional clean energy deployment will lower emissions and carbon prices.

- This will go a long way in making RGGI compliance less expensive. Secondly, the RGGI States need to use a more realistic assumption about renewable energy costs. The states have tended to rely on the cost estimates provided by EIA, who have always erred on being at the higher end. The States instead need to rely on the cost estimates provided by EPA who use more accurate prices used by National Renewable Energy Lab. Lastly, the RGGI states should ensure that their reference case also accounts for other RGGI state's clean energy policies that will make it even easier to meet a more ambitious RGGI cap. Most states like New York and Massachusetts have an independent renewable energy standard and an energy efficiency program. These programs will reduce carbon emissions independently of RGGI, thus making it easier to meet a future RGGI cap.
- *Current treatment of offset is likely to lead to illegitimate flow of offset credits:* RGGI States also need to have a relook at how they treat the offsets. Currently, RGGI uses standards approach as opposed to a performance-based approach for developing offsets and further limits offsets to 3.3% of source's allowance submission. This percentage is very low when compared to California's cap and trade program. The bigger concern with respect to the way the offsets are treated relate to the project types, which are:
 - Landfill methane reduction;
 - Sulphur hexafluoride reductions from certain industrial activities;
 - Specific energy efficiency projects;
 - Avoided methane from manure management practices;
 - Forest questration projects.
- The number of project types for which offsets are not only limited (when compared to some Federal proposals) but also raise some concerns on the legitimacy of the emission reduction from the offset projects. If illegitimate offset credits flow into the emission trading program, the program could well cease to be a success.
- *Emissions Leakage can seriously undermine the program effectiveness:* Energy imports from non-RGGI states, a critical design detail, remains an

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issue of concern as it could lead to emissions leakage. The RGGI regime does not regulate emissions generated outside the region. The increase in electricity generation due to electricity imported from outside of RGGI States could well negate the emission reductions achieved by RGGI States. In one of the recent monitoring reports, which was published in August 2015, it was revealed that the electricity generation from non – RGGI sources increased by about 10% between 2011 and 2013 as compared to the period between 2006-2008. This increase in electricity generation was due to a 30% increase in the imports of electricity from non-RGGI states.

- Carbon neutrality of bio energy is a myth: RGGI currently treats bio energy as if it has zero carbon emissions. However, this is a myth. It is increasingly recognized that the day to day stack emissions from bio electricity plants exceed those of fossil fueled plants. Not reporting bioelectricity's carbon emissions will lead to a huge discrepancy between reported emissions and actual emissions. The expectation that it would take 45 years to offset emissions from a boiler using mixed wood as compared to a coal fired plant compounds the fact that the carbon emissions from biomass are more than a fossil fired plant. The equivalent carbon debt pay-off

	Carbon emitted per MMBtu heat input	Facility Efficiency	MMBtu heat input required per MWh	CO ₂ emitted per MWh	Biomass emissions (as% of emissions)
Gas combined cycle	117.1	0.45	7.4	883	343
Gas steam turbine	117.1	0.33	10.4	1,218	249
Coal steam turbine	205.6	0.34	10.15	2,086	145
Biomass steam turbine	213	0.24	14.22	3,029	

Table: Modeled carbon dioxide emissions from utility gas, coal, and biomass facilities
Source: Partnership for Policy Integrity (2011)

time relative to a natural gas plant is expected to be more than 90 years.

- The RGGI model definition of “eligible biomass” is not sufficient to ensure lower carbon emissions and a shorter carbon debt pay off time. It is important to realize that materials produced under federal, state, or private “sustainable” forestry programs do not necessarily lead to atmospheric carbon dioxide reductions within the relevant timeframe. The sustained yield forestry regulations and the private certification programs may ensure that overall growth exceeds harvest. However, that does not mean, that they can certify the carbon neutrality of biomass or can guarantee against net transfers of forest carbon

to the atmosphere as compared to the outcome in the absence of biomass generation.

- The fundamental problem with the way biomass emissions are treated by RGGI states is that there is incompatibility between forest carbon offsets and bio energy. If increasing biomass is seen as a means for taking carbon out of atmosphere, by default, it means that bio energy emissions are not carbon neutral and hence should not be treated as such.
- Environmental justice needs to be integral to RGGI planning: RGGI needs to take cognizance of the fact that certain communities are at greater risk of climate change than others due to carbon emissions by the power plants. Therefore, RGGI needs to make environmental justice central to their planning and make sure that the communities that are at greater risk have a greater say in the way the RGGI policies are implemented and how funds are distributed by the states that are overburdened with the impacts of carbon emissions. This will ensure racial and economic equity in the application of emission reduction policies.
- RGGI modeling needs to be more inclusive: While the electric sector accounts for roughly two-thirds of the carbon emissions, the emissions from the transportation and the building sectors are not-insignificant. It is imperative that RGGI modeling is more inclusive and considers the emissions from transportation and the building sectors. In the absence of a more inclusive modeling exercise, the effectiveness of regional cap and trade programs like RGGI in helping the Federal Government meet their climate change obligations is going to be significantly diminished.

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