



## **RGGI Stakeholder Workshop on Allowance Apportionment and Allocation October 14, 2004**

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One Financial Center, Boston  
8:30am to 4:30pm

### **SUMMARY**

Note: All presentations referred to in this summary are available at [www.rggi.org](http://www.rggi.org)

This summary provides a review of a workshop organized by three members of the RGGI Resources Panel. The session was attended by approximately 90 individuals, including many members of the stakeholders group and the staff working group.

The goal of the workshop was not to come to agreement on how RGGI should allocate CO<sub>2</sub> emission allowances, but rather to clearly lay out the choices RGGI faces and the advantages and disadvantages of various approaches. We drew lessons learned from the allocation experience under earlier programs, examined the economic implications of alternative allocation choices – both in terms of economic efficiency as well as distribution of costs, and discussed alternative views of what constitutes fairness.

### **Apportioning Allowances to the States**

Two major options for staged allowance distribution were discussed. The first is direct allocation to facilities. The second option is to apportion allowances to states, which could then decide - individually or in a harmonized manner - how to allocate those allowances to facilities or for other purposes within their respective borders. The available data appears to be adequate for states to use for guidance in developing this policy.

There was an argument for consistency in allocating to sources in different states, and there was also an argument for providing states the discretion to make decisions that would ultimately be political. The point was made that without consistency between states there is uncertainty for businesses operating across multiple RGGI states. Harmonization of policies across states removes the concerns about competitiveness that are currently occurring in the EU ETS. Some participants expressed skepticism that a harmonized allocation method for all RGGI states would successfully deal with the variation in RGGI states' characteristics. In the OTC NO<sub>x</sub> program emissions

allowances were apportioned to states, which then independently chose how to allocate to sources.

Some possible methods of apportioning allowances to the states were discussed. Derek Murrow presented a number of options based on measures such as population and electricity consumption, and pointed out the variance between apportionment outcomes based on the measurement option chosen. Several participants acknowledged that special attention would have to be paid to states that import a significant percentage of their electricity from non-RGGI states if basing apportionment on electricity consumption or population. Vermont is another special case, because a very high percentage of the state's generation is non-emitting, and therefore there are few opportunities for Vermont to reduce its emissions further. A number of presenters encouraged the use of an auction to distribute allowances, in order to increase the economic efficiency of the program. Others responded that an auction would require the government to distribute the resulting revenue, and such redistribution was rarely conducted efficiently. In the acid rain program, there was an auction just to facilitate price discovery and create a thicker market without raising revenue; most analysts believe that has been successful.

### **Allowance Allocation**

The advantages and disadvantages of a series of options were discussed, with no clear consensus. There was an extended conversation about the free allocation of updated or non-updated allowances. Several speakers made the point that there is an enormous political weight on the side of grandfathering at least some of the allowances, especially initially. There was disagreement over whether free allocation to generators violated the principle of "polluter pays" that has been a common design element in environmental protection policies.

There is an important decision to be made about the year or years used for the baseline. Derek Murrow's presentation showed significant variances between states and between years.

### **Input- vs. output-based allocation**

A number of presenters advocated an output-based allocation. Output allocations could be based on either net or gross electricity generation. A point made in favor of a gross output allocation was that existing plant air pollution controls such as an SCR require significant power, thus disadvantaging these plants under a net output allocation. An input based allocation system may have lower impacts on generators, but would lessen the incentives to improve efficiency. An output-based allocation would reward power plant efficiency more than an input-based allocation, and may create bigger winners and losers. One suggested compromise was to allocate based on power output among like fuel users, as is done in the EU ETS.

### **Fuel specific vs. fuel neutral benchmarking**

There were proponents of both fuel-specific and fuel-neutral benchmarks for allocation. A fuel-neutral allocation would be relatively disadvantageous for coal-fired power plants, whereas a fuel specific benchmark would be relatively advantageous to natural gas-fired plants. Under an updating system, a fuel-neutral benchmark would likely increase the use of gas and reduce the use of coal relative to a fuel-specific benchmark. A number of participants expressed support for a fuel-neutral allocation because it would provide a greater incentive to move to low-carbon energy sources. Others expressed concerns about an over-reliance on natural gas due to the possibility of high prices, which would reduce price stability for electricity. The EU ETS uses a fuel-specific benchmark, as do the U.S. SO<sub>2</sub> and NO<sub>x</sub> programs.

### **Allocating to non-emitting generation**

Some presenters felt that allowances should not be granted to non-emitting generators, under the assumption that non-emitters will benefit from higher electricity prices while having no costs to comply with the cap. Suggestions included an allowance set-aside for non-emitting generators, as well as allocation to a public trust that would fund renewables and energy efficiency projects. Project-based offsets were brought up as another option for encouraging renewables and efficiency. Some presenters also advocated allocating allowances to nuclear power, especially uprates and new units. Some presenters drew a distinction between allocating to nuclear and large hydro plants, and allocating to renewables, suggesting that the latter may help increase the penetration rate of renewables, and could facilitate credit retirement for voluntary green pricing programs. Rich Cowart's presentation outlined options for allocating to renewable generators. The EU ETS, U.S. acid rain program, and U.S. NO<sub>x</sub> program do not allocate to non-emitters.

### **Updating allocation**

Economists argue that updating is inefficient because it lowers electricity prices and encourages fuel switching and plant efficiency over end-use efficiency, although the significance of any effect is open to question. Updating also creates uncertainty for business decisions as well as emissions outcomes. One presenter said that updating would not encourage generators with high emissions rates to generate more, because they would only be receiving emissions allowance for the average emissions rate, and would have to buy additional allowances to cover their incremental emissions. The point was also made that updating over long time periods should not change company behavior significantly, and that ultimately the inefficiencies and behavioral consequences of updating are an empirical question. While preliminary evidence on the NO<sub>x</sub> program presented by Denny Ellerman suggests that behavior is not significantly different in states that update versus those that do not, there was some consensus that the inefficiencies of updating grow as the magnitude of the program grows.

The decision on whether to update allowance allocations reflects, in part, a choice between trying to have allocations track of the evolution of emissions over time, vs. trying to create clear certainty for a market making long-term decisions.

### **Will the CO<sub>2</sub> experience differ from earlier trading programs?**

The point was made that a CO<sub>2</sub> cap differs from an SO<sub>2</sub> or NO<sub>x</sub> cap because the technology options to reduce emissions of the latter gases – such as scrubbers or SCR – do not exist for CO<sub>2</sub>. Denny Ellerman also presented research in progress on the NO<sub>x</sub> cap that suggests reductions have come from abatement rather than changes in the dispatch order. Some presenters expressed their opinion that once the incentives to reduce CO<sub>2</sub> emissions were created, compliance would be a smaller burden on companies than anticipated.

### **Electricity price and generator revenue under RGGI**

Throughout the day, there was a debate over whether and how much electricity prices would capture the value of allowances. The RFF analysis presented by Dallas Burtraw suggested that allowance value would be passed through to the consumer in the form of higher prices. Most presenters felt that the value of an allowance would be captured in a generator's bid price, but disagreed over the extent to which marginal, bid-winning generation would reflect other generators' allowance costs. Also, many states have implemented electricity price caps during their electricity sector transition to deregulation as a hedge against price spikes. If these price caps are renewed, the cost of compliance with RGGI may not be passed along to consumers.

There was agreement that the price of an allowance will be set by the stringency of the emissions cap, not by choices about allowance allocation.

Some participants said that generator compliance costs will be higher than the cost represented in the marginal clearing price, in part because low-emitting natural gas plants often set the clearing price and because average heat rates are higher than marginal heat rates. There was continued debate over the existence and magnitude of a windfall for generators resulting from the allocation of allowances. The argument for a windfall was based in part on the anticipation that the CO<sub>2</sub> cap under RGGI would require a low percentage reduction, such that valuable allowances would be allocated for the vast majority of emissions. The argument against a windfall pointed out that generators were liable for emissions above their allowances, so that their net assets from emissions allowances were negative. There was some consensus that existing non-emitting generation will get a windfall.

Dallas Burtraw's presentation on modeling analysis of RGGI suggested that an auction and historic grandfathering will have the same impact on electricity price, while updating will result in a slightly lower price.

There was concern that specific plants could be adversely affected by the distribution of allowances across states and sources; however some presenters pointed out that shareholders' value results from the aggregate of a company's generation assets.

Congestion in the transmission system could affect both electricity prices and leakage.

### **Set-asides and public benefit allocation**

A number of participants argued for a public benefit allocation in order to create programs and incentives for clean energy technologies and energy efficiency, and for other public purposes. Allocations for renewable energy could be made either to a trust that would administer programs, to generators, or to load serving entities. Rich Cowart also explained methods of allocating for energy efficiency. Some presenters agreed that there are significant market barriers to energy efficiency, and that an allocation to efficiency programs would be more cost effective than relying on higher electricity prices to incentivize electricity consumption efficiency. These presenters also referred to modeling and evidence suggesting that energy efficiency programs are the most cost-effective emissions reduction strategy. Some participants felt that RGGI allowance allocation should be technology-neutral in encouraging low carbon technologies. An argument was made against providing a windfall to generators in order to subsidize new technology, because generators would not necessarily invest the windfall in developing clean energy technologies.

Public benefit allocations may also be used to provide low-income protection programs that defray residential energy use costs in low-income households, as well as consumer rebates that would shift some of the costs of RGGI away from consumers. Some suggested that a higher percentage of allowances could be allocated to generators than the modeling indicated was necessary for compensating generators, and that there would still be a high percentage of allowances available for a public benefit allocation. A number of presenters indicated support for a glide path of increasing allocations for public benefit over time.

### **Integration into a future federal policy**

There was a consensus that RGGI would likely serve as a model for future regional or national policies. Design decisions should anticipate the integration of RGGI into other policies. Because the states to be covered by RGGI have some of the lowest emissions rates in the country, RGGI should not be designed to disadvantage actors with low emissions rates, because such a policy could – if applied nationally – disadvantage all RGGI states in the future. On the other hand, RGGI wants to encourage more states to join, and thus design decisions should take into account the interests of states outside the region.

### **Conclusion**

The participants did not reach a consensus on most of the issues discussed. The decisions about political issues are likely to be made at a political level, as was done in the SO<sub>2</sub> cap, and the EU ETS. At the end of the day, Jonathan Pershing pointed out that Denny

Ellerman's preliminary conclusions from the analysis of the NO<sub>x</sub> program could imply that choices made about allowance allocation might not be crucial to the ultimate success of RGGI. On the other hand, the difference between NO<sub>x</sub> and CO<sub>2</sub>, as well as the envisioned expansion to a national program, suggests that allocation decisions should be approached with great care.