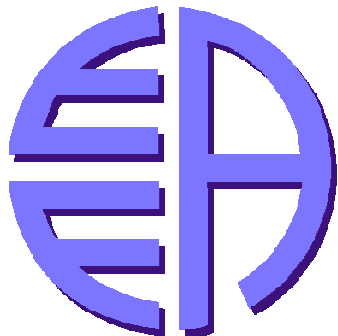


Allocating Allowances to Renewable Energy: Overview and Alternatives

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Overview

- ◆ Structure and operation of emission trading programs
- ◆ Why allocate to renewables
- ◆ Allowance allocation options



Command and Control Programs

- ◆ Specific emission limit set for each plant.
 - Emission rate or technology requirement
- ◆ Each plant must meet specific limit.
- ◆ Total emissions can increase as new plants are built.
- ◆ Implementation and enforcement can be complicated.



Allowance Trading Programs

- ◆ Establish emissions tonnage cap for group of affected sources.
- ◆ Distribute emission allowances equal to the cap.
- ◆ Each plant must hold allowances equal to its emissions at the compliance point.
- ◆ Plants can buy or sell allowances.



Principles of Cap and Trade Programs

- ◆ The emission cap/level of emissions is established up front – can't increase.
- ◆ The goal of the program is to minimize the compliance cost for this cap.
- ◆ Higher cost plants can purchase allowances.
- ◆ The program should promote clean generation by providing economic value to clean generators.



Relationship to Attainment Demonstration SIPs

- ◆ States that do not meet air quality standards are required to develop State Implementation Plans (SIPs) to demonstrate how they will meet the requirements.
- ◆ The cap and trade program is one component of a SIP. Cap and trade allowances are usually not used to offset emissions from other sectors.



Role of Renewables in Market-Based Programs

- ◆ Zero-emitting generation does not reduce overall emissions
 - They are set by the cap.
- ◆ Renewable generation helps reduce the cost of allowances/compliance by displacing polluting generators.
- ◆ Allocating to renewables helps to reduce overall compliance cost.



Retiring Allowances

- ◆ Renewable generators can create reductions under a cap by retiring allowances.
 - This allows emission reduction claims for capped pollutants.
 - Can be used by states to meet clean air goals.
- ◆ Only makes sense if renewables receive allowance allocations.
- ◆ Choice should be left to the generators.



The Role of Allocation

- ◆ Emission allowances must be distributed at the beginning of the program - distributing the “chips” in the trading system.
- ◆ Allocation does not determine the near-term compliance strategy but does affect profitability of individual plants or companies.
 - Can encourage the development of new, clean technologies.



Goals for Allocation

- ◆ Transparent
- ◆ Not overly complicated.
- ◆ Not create arbitrary winners and losers.
- ◆ Promote desirable policy outcomes.
 - Efficiency, new technology, balanced energy mix, low cost.



Past Approaches to Including Renewables

- ◆ Trading programs have established allowance set-asides for renewable generation.
 - A fixed pool of allowances that renewable generators could request based on operation.
 - Limited availability.
 - Burden for application and verification was on the generators.



Examples of Set-Asides

- ◆ Title IV SO₂ trading program
 - Only for early action (now expired)
 - Only for *regulated utilities*
- ◆ NO_x SIP call
 - Six states have established NO_x allowance set-asides in their seasonal trading programs.
 - Very limited allowances.
 - Varying, complex application processes.



Requirements for Set-Asides

- ◆ How big
- ◆ Eligibility
- ◆ Basis for allocation
- ◆ Longevity
- ◆ Overrun/underrun



A Better Alternative

- ◆ Allowances can be allocated to renewable generation on the same basis as other generators.
- ◆ Direct allocation from main allocation pool proportional to generation.
 - Simpler than set-aside.
 - More direct.

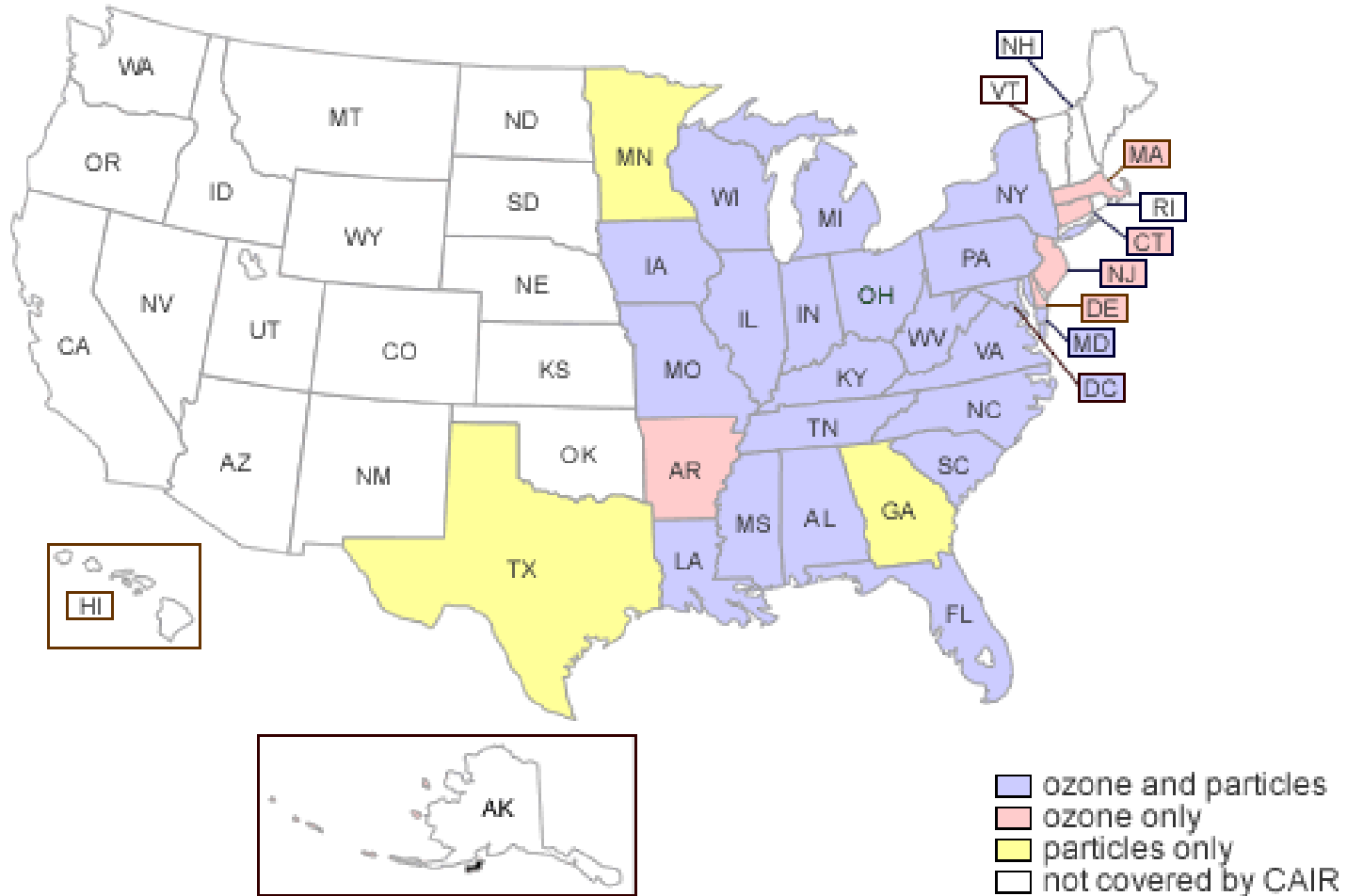


For Example: CAIR

- ◆ Clean Air Interstate Rule - regulates NO_x , SO_2 in 28 eastern states.
 - NO_x is the primary target for allocation.
- ◆ Allocation process left to the states. EPA has provided model language.
 - Can be easily extended to include renewables.



CAIR Coverage



Direct Allocation to Renewables

- ◆ EPA model rule has output-based allocation for new (2001+) generators.
 - Allocation is proportional to electricity generation.
 - Can be directly applied to renewables simply by including new renewables in the 2001+ allocation pool.
 - Eliminates need for setaside pool, separate allocation process.
 - Can also apply to end-use efficiency.
 - Set-aside can be used for smaller renewables.



STAPPA/ALAPCO Model

- ◆ Provides model rule language for direct allocation and renewable energy setasides as well as other NO_x allowance allocation options.
- ◆ *Alternative NO_x Allowance Allocation Language for the Clean Air Interstate Rule (August 2005)*
<http://www.4cleanair.org/Bluestein-cairallocation-final.pdf>



Summary

- ◆ Renewable generation should be an integral part of cap and trade programs.
 - Supports goal of reducing compliance cost.
- ◆ Set-aside approach has been used in the past. Direct allocation is simpler under the EPA model rule for CAIR.
- ◆ If allocated, allowances can be used for SIP alternatives.
- ◆ Can work in parallel with RPS.

