American Council for an Energy-Efficient Economy
WASHINGTON, DC

OBJECTIVES AND ATTRIBUTES OF ENERGY EFFICIENCY-BASED ALLOWANCES WITHIN A MULTI-POLLUTANT EMISSIONS TRADING SYSTEM

One of a Series of ACEEE Fact Sheets

Objective: Provide pollution control credits to entities that implement energy efficiency improvements that offset generation and thereby reduce overall air emissions generation.

Proposed Basis: *Output-Based Allowance Allocation System.* The U.S. Environmental Protection Agency (EPA) would cap overall emissions of one or more contaminants from electric-generating facilities. Permissions to emit pollutants *(allowances)* would be auctioned among participating electric generating facilities and/or awarded to them by applying a uniform rate for the amount of electricity (in pounds per megawatt-hour [lbs/MWh]) the facilities generate. The uniform emission rate would be derived by dividing the desired tonnage cap by the projected level of total electric output from participating generation.

Efficiency improvements would be granted allowances based on the amount of "equivalent" generation avoided. For example, a 10 MWh savings would generate allowances at least equal to the 10 MWh equivalent generation that it offsets.

Desired Attributes and Guiding Principles of Efficiency-Based allowances

Implementation of a multi-pollutant allowance market would require many structural and operational details to be worked out, including specific provisions for energy efficiency-based allowances. The ultimate success of the program would depend on the effectiveness of these details in creating a well-functioning allowance market. Below are desired attributes and guiding principles for developing a multi-pollutant trading system that effectively incorporates energy efficiency-based allowances as a compliance option.

- Minimize transaction costs—make it easy to apply for and receive energy efficiency-based allowances.

- Promote investment in energy efficiency by providing an additional revenue stream for energy efficiency projects based on their value in achieving compliance with environmental regulation.

- Create a market that encourages widespread participation for energy efficiency projects and investments.

- Create a market that yields a *fair market* price for energy efficiency-based allowances. Controlling pollution through emission reductions should generally be a least-cost option compared to the application of post-combustion emission control technologies. The economics of energy efficiency-based allowances should make them attractive to generators.

- Create a fluid, dynamic market with sufficient numbers of energy efficiency-based allowances at fair market prices to provide generators with a reasonably certain supply of needed allowances. Generators need to be able to rely on the allowance markets to secure the desired numbers of allowances to meet generators' compliance plans.

- Create a reasonably open market for energy efficiency-based allowances. Participation in this market should be open not just to utilities/generators, but other entities capable of delivering and/or aggregating enough savings to participate in this market. The market should be open to customers, manufacturers, retailers, third parties, and others able to implement savings, whether directly or by serving as an aggregator.

- Create verification protocols that provide high levels of assurance that energy efficiency savings actually are achieved, but also are not too burdensome or costly.

- Create a structure and regulations governing its operation that meshes well with the overall electricity industry structure—whether restructured or still under "traditional" rate-based utility regulation.

- Create a formula for determining energy efficiency-based allowances that accurately credits efficiency savings at generation level. The formula should account for line losses (transmission and distribution), which could be achieved simply by applying a national average based on Energy Information Administration (EIA) data.

Proposed Mechanisms for Efficiency-Based Multi-Pollutant Allowance Trading

Creating and implementing a multi-pollutant trading system would be a complex undertaking. Experience gained from implementation of other pollutant trading systems, such as the sulfur dioxide (SO_2) system in the United States, would greatly benefit this task. Such experiences demonstrate that pollutant trading systems can be implemented and that they can be effective at achieving emissions reductions. Below are proposed mechanisms for effectively using energy efficiency-based allowances as part of an overall multi-pollutant trading system.

- Because many energy efficiency projects and investments are small relative to most generation technologies, aggregation of small projects into sufficiently large sets of projects to participate effectively in allowance markets will be a challenge for the program. One strategy to overcome this problem would be to encourage integrated utilities, generation companies, or distribution companies to serve this aggregation function. There are several advantages to having these types of companies play this role.
    - Integrated utilities and generation companies by default will be in the allowance trading market since they will be required to have allowances sufficient for their electricity generation. Participation costs would therefore be reduced for them to aggregate and trade energy efficiency-based allowances.
    - Many integrated utilities and distribution companies have experience with energy efficiency program structures, implementation, measurement, and verification.
    - The allowances earned through aggregation of energy efficiency projects have real value to the aggregator, which provides a strong motivation for success in this area.

  - Additional transaction costs could be expensed as allowable operating costs by the integrated utility or distribution company. This would vary state by state, but the enabling federal legislation could contain language that encourages states to allow cost recovery of transaction costs in aggregating energy efficiency projects to qualify for allowances by regulated utilities and distribution companies.

- To provide additional incentive for utilities and other market participants to implement and aggregate energy efficiency projects as a means to gain allowances, consideration should be given to attaching a "premium" to such allowances. This would help offset some of the transaction costs of earning allowances through aggregation of energy efficiency projects. It also would make this option more attractive to utilities and other parties. Providing a premium for energy efficiency-based allowances can be justified by the additional benefits that energy efficiency provides, including conservation of non-renewable fuels, enhanced system reliability, and certain stimuli to local economies, such as job creation.

- Because multiple stakeholders would be eligible to receive energy efficiency-based allowances, there would need to be mechanisms in place to prevent multiple parties from claiming credit for the same measure(s). For example, one option would be to grant allowances to end-users who then could transfer ownership of their efficiency-based allowances to aggregators. Such a transaction might occur at the time the end-user receives incentives for making the efficiency investments that generated the allowances (in states where such incentives for energy efficiency are offered).

- There should be a *set-aside* program to assure a certain minimum number of available allowances, similar to what was done for the SO_2 trading system. The set-aside would create an initial pool of allowances that could only be awarded to qualified energy efficiency projects. This would both provide a "jump start" to this aspect of the market and help reduce risk and uncertainty associated with obtaining energy efficiency-based allowances in the market because there would be a known quantity of such allowances available at the initiation of the program.