



**ISSUES AND CHALLENGES REGARDING INCLUDING MECHANISMS
FOR ENERGY EFFICIENCY-BASED ALLOWANCES
WITHIN A MULTI-POLLUTANT EMISSIONS TRADING SYSTEM**

In the first fact sheet in this series (<http://aceee.org/energy/objattrib.htm>), we discussed the background and objectives for providing energy efficiency-based allowances within a multi-pollutant trading system. In this fact sheet, we continue this discussion by identifying key issues and challenges facing adoption of such a system. We also propose some possible approaches to meeting these challenges.

Issues and Challenges Regarding Energy Efficiency-Based Allowances

- Possibly the biggest challenge facing inclusion of energy efficiency-based allowances is the need to aggregate projects into a relatively large minimum size, which is necessary for an entity to participate effectively and economically in the multi-pollutant allowance market. This is a major program challenge since most efficiency improvements yield relatively small increments of kilowatt-hour and kilowatt savings. The transaction costs of aggregation and participation in the multi-pollutant allowance trading markets generally would be too big a barrier for small businesses and other small organizations to overcome to participate in this market.
- A variety of different types of companies engaged in the generation, transmission, distribution, and sales of electricity will be well suited to serve as aggregators of energy efficiency projects. These types of companies include traditional, vertically integrated, regulated utilities; distribution utilities; independent power producers; and retail power marketers. Integrated utilities, independent power producers, and other electricity-generating companies have to obtain and hold sufficient numbers of multi-pollutant allowances to generate the amount of electricity they wish, which will provide an incentive for them to obtain energy efficiency-based allowances. For distribution companies and retail power marketers, serving as an aggregator might well complement their business activities related to sales and services to their customers. Experience with demand-side management (DSM) programs would be especially valuable to companies that serve as aggregators since this requires many of the same types of skills, such as evaluation, measurement, and verification. While different types of companies may have different motivations, the program administrator should be able to develop incentives that attract and engage a variety of different types of companies in aggregating energy efficiency-based allowances and participating in multi-pollutant allowances markets.
- Generating companies may have an inherent bias against and possible disincentive regarding purchasing energy efficiency-based allowances as it would mean that they would be promoting and even funding activities that would decrease the demand for their product. This may not be as much of a problem if the companies buy allowances from outside their service territories or markets.

- Energy efficiency-based allowances should be allocated a credit premium to provide additional incentive for utilities, generators, and other types of energy companies to procure such allowances. This should help overcome any inherent reluctance to pursue energy efficiency by these entities, and also help cover some of their transaction costs. 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. A credit premium is also justified due to the transaction costs of aggregating energy efficiency improvements.
- Protocols will need to be established to address the issue of identifying net efficiency impacts of energy efficiency improvements that qualify to receive allowances. Net efficiency impact in this context (also sometimes referred to as *additionality*) is the difference between the energy use of a more energy-efficient technology and a reference level of energy efficiency for the technology. For retrofit and replacement applications, the reference level is generally the technology being replaced or upgraded. For new purchases and applications, the reference level might be the applicable standard or code. Establishing an acceptable reference level can be difficult, especially for energy systems and entire new buildings or facilities. The program administrator will have to establish clearly defined reference levels and/or protocols for all eligible energy efficiency improvements. This will need to be done in a manner that is reasonably simple for participants and practical for the administrator.
- The effects of energy efficiency improvements will have to be factored into the baseline projections of generation output that are made to determine levels for awarding allowances. There will have to be a mechanism established to account for reference level energy efficiency in these projections—as well as some kind of rolling update to include energy efficiency improvements for which allowances are awarded.
- Awarding allowance credits for purchase of selected new, energy-efficient products will be a promising mechanism to increase sales of efficient goods and services and help achieve environmental objectives.
- Customers who purchase eligible energy-efficient products should receive the allowance credits. The customers could then transfer the credits to a third party—such as manufacturers, utilities, or energy service companies. For example, the third party would purchase the allowance credit from the customer through some transaction, such as a rebate. This approach has several benefits. It first establishes a clear mechanism for aggregating numerous small purchases necessary to achieve the threshold for participating effectively and economically in the allowance trading market. Also, a rebate and associated records also help the savings look more “legitimate” to the customer, thus increasing likelihood of buying high efficiency. It also educates customers about the energy–environment link and sends the right market signal to the consumer regarding the energy and environmental benefits of more efficient products.

- Awarding and tracking energy efficiency-based allowances poses some challenges and raises some issues. An objective for including energy efficiency-based allowances in a multi-pollutant allowance trading system would be to promote new investments in energy efficiency. However, equity concerns would dictate that existing programs should get the same credits as new programs. This also would help prevent “gaming” of programs in order to qualify. Ongoing programs should get credit for savings beyond what would happen in a no-program base case.
- The allowance award protocol should include adequate provisions to ensure that installation of energy efficiency measures is appropriately documented and verified before allowances are awarded. Utilities, aggregators, or others submitting applications for allowances would be responsible for meeting reasonable documentation and verification requirements.
- An overall challenge to the program administrator will be to make energy efficiency cost-competitive with other emission-reduction options. This means that program rules for applying for and receiving energy efficiency-based allowances should not impose undue costs on entities seeking this option. The program rules must strike an effective balance between the need for accurate accounting of emission reductions and the need for user-friendly, streamlined administrative processes required of participating entities.