

Painting the Whole Picture: Understanding the Impacts of Energy Efficiency Using Cost-Effectiveness Testing and Economic Impact Assessments

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Summary

The most cost-effective energy efficiency programs and those most impactful to ratepayers do not necessarily align. This paper will present a discussion of how comprehensive economic impact assessments can be utilized to better understand and report the depth and breadth of program impacts. We will review the standard industry practices for cost-effectiveness testing (with a special focus on impacts these analyses miss), present a case study focusing on five years of economic impact assessments conducted for a utility in the Northeast, and discuss how the results from these assessments supplement standard cost-effectiveness testing.

Most energy efficiency programs are ratepayer funded. To protect the ratepayer, program administrators are typically required to conduct cost-effectiveness testing to 1) show that the value of the benefits of a given program exceed the costs and 2) to demonstrate that the ratepayer funds are deployed in the most efficient way. Traditional cost-effectiveness testing allows program administrators to compare an individual program's benefits to its costs and compare this ratio to other programs. However, it does not provide a clear picture of how programs actually impact the economy. Standard cost-effectiveness tests examine only direct effects of programs and do not consider their deeper impacts on local economies. Using many of the same inputs that are used in conducting traditional cost-effectiveness testing, evaluators can estimate program impacts with more comprehensive economic models. These models trace the direct effects of programs through the economy to provide insight into the indirect effects they produce and paint a picture of the overall effects these programs have in program administrator territories, including quantifying job creation. The combination of cost-effectiveness testing and economic impact assessments provides a clearer picture of the overall impact of energy efficiency programs than either can standing alone.

Developing a clear picture of the economic benefits of implementing an energy efficiency program can provide fine-grained detail on when and by whom benefits will be realized. For example, programs with high levels of contractor services may have more impact in the local economy than upstream programs. Program administrators can use these results as a marketing tool, and can further use them to make strong statements about the exact effects of their programs on the economy. Unlike other forward-looking applications of economic impact modeling, economic impact models in the evaluation context rely on actual expenditure and energy savings data from programs, and therefore provide a more realistic perspective on the impacts compared to the assumptions often used in planning exercises.