

BEYOND ENERGY SAVINGS, LEVERAGING NON-ENERGY BENEFITS

Moderator: Charles Michaelis, Databuild Research & Solutions

PAPERS:

NEBs: The Latest in Results, Applications, and Best Practices for State Cost-Effectiveness Tests

Lisa Skumatz, Skumatz Economic Research Associates

Non-Energy Impacts Provide Powerful Marketing Tools for Energy Efficiency Programs

Marie Abdou, National Grid

Noel Stevens, DNV GL

Anthony Davis, DNV GL

The Million Metric Ton Question: Estimating National Carbon Impacts from State-Level Programs

Kristina Kelly, DNV GL

Tim Pettit, DNV GL

Jessi Baldic, DNV GL

Water Saving Devices Save More Energy Than You Think

Kelly Parmenter, Applied Energy Group

Donney Dorton, Oklahoma Gas & Electric

Ray Ehrhard, Washington University

SESSION SUMMARY:

Non-energy benefits are increasingly recognised as an integral element of energy efficiency programs. Along with this recognition has come a need for rigorous evaluation to ensure the benefits are accounted for accurately. This session will present the latest on how non-energy benefits are being measured and used, both in cost-effectiveness tests and to market energy efficiency programs. We will also hear about practical examples of projects to establish the value of the non-energy benefits arising from specific energy efficiency activities.

Skumatz et al. have over 20 years' experience of evaluating non-energy benefits for cost-effectiveness tests. This paper sets the scene for the session by reviewing how non-energy benefits are used, considering the approaches currently in use for their evaluation and how they are treated by regulators. The paper identifies challenges in evaluating non-energy benefits (such as adapting values between projects and jurisdictions and selecting appropriate discount rates) and recommends best practice approaches to dealing with the challenges.

Abdou et al. report on a project to utilise data on non-energy benefits to provide insight to support marketing messages for firms in specific industry segments. The team analysed data on non-energy benefits from a retrofit program in commercial and industrial sectors covering 788 measures in 500 participants. The analysis produced robust data about the costs saved through non-energy benefits that can be expected from the installation of energy efficiency equipment in a range of segments. These results can be used to demonstrate the value of energy efficiency to program implementers, participants and equipment manufacturers.

Kelly et al. have developed an approach to assessing the impact of energy efficiency and renewable energy projects on carbon emissions. This is increasingly important as the EPA's proposed Clean Power Plan could require each state to reduce the carbon emissions arising from fossil fuel-fired electricity generation. The methodology was used to determine national savings from varied state level activities and considered both the carbon and social benefits arising from the programs.

Parmenter et al. look at co-benefits from another angle, identifying the energy saved through programs implemented by water and wastewater utilities to introduce water saving measures. The paper draws on evidence from programs at four locations in Oklahoma and found that between 2,500kWh and 5,500kWh is embedded in every million gallons of water. The project also developed example values for direct and embedded savings for hot water saving measures demonstrating that embedded savings could account for between 5% and 9% to the total energy savings.