***ASSESSMENT OF ENERGY EFFICIENCY GAINS FROM ARRA-FUNDED INVESTMENTS IN THE NATION’S PUBLIC HOUSING***

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Overview: In 2009 Congress passed the American Recovery and Reinvestment Act (ARRA), a $900 billion ‘stimulus’ bill to generate economic activity and help the country recover from a deep economic slump. Of this, several billion dollars were distributed to the US Department of Housing and Urban Development (HUD), and a part of this money was used to finance improvements in energy and water efficiency in public housing. HUD distributed these monies in two ways: 1) by “formula,” in which every Public Housing Authority (PHA) was provided some monies with which to invest in energy and water efficiency; and 2) by a competitive grant program, in which PHAs had to submit applications for further monies that would be awarded on the merits of the competing proposals.

The presentation will summarize the results of a study of HUD’s efforts to increase energy and water efficiency in public housing via use of the ARRA monies.[[1]](#footnote-1) It will describe the context of the formula and competitive grant programs, how estimates of the energy efficiency returns from those programs were made, what the results were, and lessons learned. Though the circumstances of the ARRA-funded programs were somewhat unique, the analysis will show that competitively awarded monies tend to result in more ‘bang for the buck’ in energy efficiency terms than monies awarded through set formulas.

Methodology: The study collected data from HUD’s Recovery Act Management and Performance System, surveyed competitive grantees, and examined utility expense data pertaining to PHAs obtained from HUD. The utility expense data covered periods before and after the energy efficiency measures were taken. A number of site visits to particular PHAs also were conducted. These various data sources were analyzed to estimate energy savings, water savings and other metrics associated with the ARRA-funded investments.

Results: The presentation will summarize major results of the study. These include aggregate energy savings as well as the proportion of energy used that was saved. Competitive grants generally yielded fairly large energy savings, averaging over 20 percent, while formula grants yielded a lower savings percentage. The discussion also will put the results into the economic context of the time, recalling the multiple objectives of ARRA spending.

The study did not attempt to estimate rates of return to capital invested because many of the energy efficient assets purchased under the program provided other services. For example, investment in energy efficient refrigerators reduced utility consumption in the units affected, but also provided a stream of food cooling services in those units that will last for many years. However, in a few cases it was possible to isolate payback times for specific investments taken, and these will be reported as well.

Conclusions and Implications: The study indicates that HUD was able to deploy ARRA monies fairly rapidly so that one intent of the investments, to generate employment and income during a time of deep economic recession appears to have been met. Efficiency gains were higher per dollar spent in the competitive grant program, suggesting that this mechanism probably will achieve greater energy savings for monies spent than a formula method for allocating funds. Finally, the data obtained for the study might have been improved had housing authorities been forewarned as to exactly what data should be collected as a condition of the funding being made available.

1. “Assessment of HUD’s Recovery Act Supported Investments in Energy Efficiency and Green Energy,” LMI Report R-CHI-01106. January 2016. The study was performed on behalf of HUD by a team of firms led by LMI. Michael Canes of LMI authored the final report and was a principal investigator in the study, but many others from LMI, Summit Consulting, Compass Group, Dominion Due Diligence Group, Federal Practice Group and Clean Energy Solutions performed important analyses and made significant contributions. [↑](#footnote-ref-1)