

Abstract #: 384

Author Name: Omar I. Asensio

Author Company: University of California, Los Angeles

Second Author's Name:

Abstract Title: Incentives for Technology Adoption: Evaluating Performance in the DOE Better Buildings Challenge

Abstract Text:

The diffusion of energy efficient technologies is increasingly important for firm competitiveness and productivity. Yet our ability to estimate causal relationships between targeted policy incentives for technology adoption and performance outcomes has been limited. In this paper, we use quasi-experimental techniques (e.g. selection and matching models) to investigate the performance of stimulus and information-based programs unified under the U.S. Department of Energy's Better Buildings Challenge. Using a unique dataset of 178,777 commercial buildings resulting from a major public-private partnership in the City of Los Angeles, we analyze investment decisions and performance outcomes by building owners and managers—including rent price premiums, occupancy rates and program-level energy savings. We use evolutionary search algorithms to match buildings on observable characteristics and define credible counterfactual consumption scenarios, which serve as the basis for performance comparisons. We observe a project implementation rate of about 42% for energy efficiency investments identified through building level audits. Our results suggest energy savings in the range of 18-25% across 35 million square feet of commercial real estate space. We discuss program level barriers and drivers of success.