



# POWER CONFERENCE

On Energy Research and Policy

## ABSTRACT

### ***"The Welfare Costs of Misaligned Incentives: Energy Inefficiency and the Principal-Agent Problem"***

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In many settings, misaligned incentives and inadequate monitoring lead employees to take self-interested actions contrary to their employer's wishes, giving rise to the classic principal-agent problem. In this paper, I identify and quantify the costs of misaligned incentives in the context of an energy efficiency appliance replacement program. I show that contractors (agents) – who are hired by the electric utility at the behest of the regulator (the principals) -- increase their compensation by intentionally misreporting program data to authorize replacement of non-qualified refrigerators. I provide empirical estimates of the impacts of misaligned incentives on (1) the effectiveness of energy efficiency retrofits and (2) social welfare. I estimate that unqualified replacements reduce program net benefits by an average of \$106 per replacement and save only half as much electricity as replacements that follow program guidelines. The same program without a principal-agent distortion has a net benefit of \$60 per replacement. The results provide novel evidence of how principal-agent distortions in the implementation of a potentially beneficial program can undermine its value. These findings may also help to explain the gaps found in some energy efficiency programs between ex-ante estimates of potential savings and actual outcomes.