



JAMES A. BAKER III INSTITUTE FOR PUBLIC POLICY  
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# PARTICIPATION IN THE CITY OF HOUSTON'S RESIDENTIAL ENERGY EFFICIENCY PROGRAM

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## Houston's Residential Energy Efficiency Program

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### Introduction

The City of Houston's (COH) Residential Energy Efficiency Program (REEP) has weatherized more than 8,300 homes in 12 different neighborhoods since 2006. Homeowners who participated in the program have seen monthly "weather-adjusted" kWh energy reductions<sup>1</sup> of 12 to 15 percent and up to 20 percent in the summer months, when Houston residents use their air conditioning the most. These homeowners will continue to realize savings for the next 10 to 15 years.

Despite significant savings that directly benefit REEP participants, approximately 64 percent of qualified Houston households have yet to participate. This study seeks to identify the reasons individuals agree or decline to participate in the program. Using survey data, we examine the factors that influence the likelihood of participation, including an individual's attitude toward energy conservation, neighborhood social networks, energy costs, and demographic traits. The goal of the study is to help the COH enhance program participation.

### Survey

To examine the reasons why people chose to participate or not to participate in the REEP program, we conducted a survey of 500 potentially eligible households in the southwest Houston neighborhood of Sharpstown.<sup>2</sup> Sharpstown is an ethnically diverse community of approximately 10,000 families. This neighborhood was selected because a large number of Sharpstown

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<sup>1</sup> Weather adjustments describe the different techniques used to protect a home from the elements and to optimize energy efficiency of a home. These seasonal adjustments can include caulking windows, installing attic insulation, sealing doors, and other energy conservation techniques that mitigate the effects of weather on a home. However, "weather adjustments" depend upon the climate of the region due to the different uses of the adjustments when subjected to either extreme "heating" or "cooling" days.

<sup>2</sup> This was a random digit dial telephone survey of 500 households in the Sharpstown neighborhood between May 18 and June 1, 2010. The error rate for this survey is  $\pm 4.5$  percent. The American Association for Public Opinion Research response rate is 28 percent.

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residents potentially meet the income requirements for the REEP. In 2008, 26 percent of Sharpstown residents had incomes below the federal poverty line; the average annual household income was approximately \$27,000.

Respondents were initially asked if they would be willing to participate in a City of Houston program that provides qualified residents with free home improvements designed to reduce heating and air conditioning costs. This program includes attic insulation, weather stripping, window caulking, energy saving light bulbs, and insulation for household water heaters. All labor and material costs are paid for by the city. At the beginning of the survey, 56 percent of the respondents indicated they would participate.

The survey then queried respondents about items such as:

- their monthly energy bills
- concern about their energy bills
- current efforts to save energy
- trust in city government to do the right thing
- the influence of their neighbors and other social networks on their decision
- demographics such as age, income, and marital status

Respondents were also read a series of statements about the program designed to highlight some of the advantages and disadvantages of participation. After each statement, respondents were asked if that statement made them more or less likely — or made no difference in their decision — to participate in the program. These statements included:

- Improvements would save an average of \$50 to \$100 on monthly energy bills over the next 10 years.
- The program provides free labor and materials.
- Improvements would increase the resale value of their house.
- Participants need to fill out paperwork that requires personal information, such as annual income.
- Home improvements would require a professional to visit the home at least three times.

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After hearing information regarding the program's benefits, 62 percent expressed interest in participating in the program, reflecting a net gain of 6 percent.

### **Findings**

Concerns about energy bills, the size of energy bills, and promises of reduced energy bills are the key factors influencing a respondent's willingness to participate in the program. Specifically, single respondents were more likely than married individuals to express concern about their energy bills. People of African-American descent and women were more likely to be concerned about their energy bills. Respondents who thought they had high energy bills also were more likely to participate in the program, regardless of income level.

When respondents were told REEP home improvements would allow them to save an average of \$50 to \$100 on monthly energy bills over the next 10 years, 69 percent indicated they would participate. Similarly, 61 percent of respondents indicated they would be interested in program participation if it increased the resale value of their home.

A significant proportion of respondents were more likely to participate in the REEP if they knew their neighbors were also participating in the program.

Interestingly, the respondents' experience with and attitudes toward government showed no effect on their willingness to participate in the program. In addition, attitudes about the environment and conservation did not influence the likelihood of participation in this program. Internet websites were cited by 38 percent of all respondents as a source of information they would use when "considering to participate in the COH's home weatherization program."

### **Recommendations**

Now is a good time to advertise the program. People are especially concerned about their ability to pay for utilities during a recession and the summer months. With this in mind, the City of Houston should consider the following when promoting the program:

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- Promotional materials for the REEP should emphasize the potential reduction of monthly energy bills and increased resale value of a home.
- Advertising materials should target singles, women, and people of African-American descent.
- Because people are more likely to participate if their neighbors do as well, homes undergoing weatherization should post lawn signs advertising the REEP.
- Educational and advertising programs should encourage potential participants to visit the COH's REEP website for additional information and as a means of enrolling in the program.
- The Sharpstown neighborhood bounded by Bellaire on the north, Fondren on the west, Beechnut on the south, and Hillcroft on the east should be targeted for participation in the REEP. Other neighborhoods where respondents expressed interest in the REEP include: S. Braeswood (North), S. Gessner (West), W. Bellfort (South), and Fondren (East); Harwin (North), S. Gessner (West), Bellaire (South), and Fondren (East).

