

Focus Group Findings: Exploring Home Improvement Projects and Energy Efficiency among Latinos and Non-Latinos in Fresno and San Diego

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I. Executive Summary

Through a series of focus groups we sought to identify sociocultural characteristics of Latino households that shape how they think about executing and financing home improvement projects, with a particular focus on energy and energy efficiency.

We conducted four focus groups: two in Fresno and two in San Diego. In each location, one focus group included participants who self-identified as Latino and felt comfortable speaking in Spanish; the other group included participants who self-identified as non-Latino and were comfortable speaking in English. All focus group participants had hired someone from outside the household to complete a large home improvement project. Focus group participants were not chosen on any statistical basis and therefore **no statistical inferences should be drawn from the results of the discussion.**

The following are key findings from the four focus groups.

- Both linguistic groups reported that improving their home's appearance and making needed repairs were their top motivations to do home renovations. However, family considerations were a more important motive for Latinos than for non-Latinos. Home comfort motivated Fresno participants more than San Diego participants.
- Participants across linguistic groups and regions linked efficient windows and insulation to improved comfort in the home and to saving money on electric bills.
- Participants used similar criteria of project safety, size and cost to decide if they would take on a project themselves or hire a professional. Latinos had considerable experience hiring professional contractors and had a sophisticated understanding of credentials. Latinos reported using referrals from friends and family to locate contractors while non-Latinos relied more on online sources.
- All participants recommended messages highlighting how energy efficiency leads to demonstrated cost savings as an effective way to promote energy efficiency. Latinos identified with Hispanic models in the advertisements, preferred to receive energy efficiency information via television and appreciated a message that provides helpful information from a trusted source (like a .org or .gov website).
- Compared to non-Latinos, Latinos demonstrated greater awareness and experience with utility programs. Despite their engagement, they recommended more utility program outreach.
- Latinos reported barriers to obtaining loans that non-Latinos did not mention. All groups were averse to high interest rates, preferring loan packages with terms combining short timelines with low interest rates.

The focus groups are part of a larger research project funded by the California Energy Commission's Electric Program Investment Charge (EPIC) and Energy Upgrade California®. These findings, along with insights gained through a literature review and structured interviews with contractors, will be used to

inform future stages of the research – including a survey of Latino households in Fresno and San Diego counties as well as online and field experiments to test messaging and framing strategies.

II. Background and Methods

The current policy framework used to assess the potential for and likely adoption of residential energy efficiency measures is driven primarily by estimates of cost effectiveness. While an important component of the equation, cost effectiveness calculations alone fail to accurately predict adoption and market potential, as they do not capture the multitude of factors influencing the decision-making process of individual market actors. In recognition of this limitation, the California Energy Commission funded a series of projects designed to explore how sociocultural factors influenced customer adoption of home energy efficiency measures. This report summarizes the findings of focus groups conducted for one of those projects, EPC-14-037, led by the Center for Sustainable Energy. Match funding for this project was provided by Energy Upgrade California®.

The goal of the focus groups was to identify sociocultural characteristics of Fresno and San Diego Latino households that shape how they think about executing and financing home improvement projects, with a particular focus on energy and energy efficiency. Specifically, we sought to answer the following research questions.

- What motivates focus group participants to make home improvements?
- How do focus group participants select and work with contractors?
- What role does energy efficiency play in focus group participants' thinking about home improvements?
- What messages resonate with customers about energy efficiency improvements?
- How receptive are focus group participants to home energy audits and programs, including their experience with such programs?
- What are focus group participants' attitudes toward financing for energy efficiency upgrades?

We conducted four focus groups: two in Fresno and two in San Diego. In each location, one focus group included participants who self-identified as Latino and felt comfortable speaking in Spanish; the other group included participants who self-identified as non-Latino and were comfortable speaking in English.¹ All focus group participants had hired someone from outside the household to complete a large home improvement project within the past 5-7 years. Participants were recruited by research companies specializing in recruitment and hosting of focus groups in each locality. Focus group participants were not chosen on any statistical basis and therefore **no statistical inferences should be drawn from the results of the discussion.**

¹The script used to screen participants is included in Appendix A.

III. Analysis

In this analysis, we use the term “linguistic groups” instead of “ethnic groups”, to be as true to focus group composition as possible. We chose not to use the term “ethnic group” since the non-Latino participants were ethnically diverse but all spoke English during the focus groups.

We analyzed the focus group conversations using the NVivo qualitative data analysis software program to discover any meaningful differences between geographic locations, or between linguistic groups.

Demographic Information

Because household characteristics can relate to home improvement decisions, we collected information on the number of people living in the household and length of time spent in the current home from focus group participants. Average family size varied little among the groups, although the Fresno Latino group had some larger families, which increased their average family size to 4.1 people (Table 1).

Table 1: Average Household Size and Range (n = 10)

	Fresno	San Diego
Non-Latino	3.1 (2 to 6)	3.4 (2 to 5)
Latino	4.1 (2 to 7)	3.3 (2 to 5)

The length of time focus group participants had lived in their homes varied dramatically by region, but not by linguistic group. Those in San Diego had been in their homes more than twice as long, on average, as participants in Fresno (Table 2).

Table 2: Average Number of Years in Home (n = 10)

	Fresno	San Diego
Non-Latino	5.9*	19.7
Latino	7.5	16.8

*n=11

Findings by Research Question

What motivates focus group participants to make home improvements?

1. Linguistic Group Similarities and Differences

Participants in both linguistic groups said their strongest motivations to do home improvements were to enhance aesthetics and make needed repairs. Aesthetic improvements included replacing carpet with

tile, installing granite countertops in the kitchen and painting. Latinos more frequently discussed these types of improvements in the context of modernizing their homes, often saying their homes were older – “viejita,” – and that improvements would help make them more “moderna.” Notably, participants used the diminutive “-ita,” which signifies affection, when describing their homes, suggesting they take pride in their homes despite their age. Needed repairs included leaking roofs, leaking pipes, and a broken furnace.

Findings from the literature review indicated that Latinos are family-oriented and family members figure prominently in their decision-making. Focus group findings supported this notion, as the Latino groups more often cited the needs of family members as motivators for home improvement projects. As one Latino participant said, “My dad lived with me, my mom too. We needed to change the shower because he was old; we needed to change the rooms so they could move in.” Latino participants also described home improvement projects they had carried out to make their homes more accommodating for their children.

Latinos discussed property value and considerations of selling a home as a motivator for home improvements more than non-Latinos. One San Diego participant recommended selecting a contractor familiar with building codes so that the home is up-to-code when going to resell. Others questioned the complications of selling a home with leased solar panels, and another participant reminded others that investments in energy efficiency can improve the value of a home.

Latinos also expressed the desire to save money on their electric bills more often than non-Latinos. They cited installing efficient windows and getting solar panels to reduce their electric bills.

Three Latinos mentioned that they had purchased tract homes, suggesting they had limited needs for home improvements except for improving their backyards or installing solar. As one said, “I live in a brand new tract home. We have dual-pane windows, it’s all brand new stuff, so it’s like my only option right now that I could take advantage of is solar.”

2. Regional Differences

Fresno participants, both Latinos and others, mentioned improving the comfort of the home more often than San Diego participants. Fresno participants cited noise reduction, reduction of cold drafts at night and reduction of daytime heat passing through single-pane windows as comfort-motivated home improvements. The heightened attention to comfort among Fresno participants likely reflects the area’s more extreme climate, and in particular its high summer temperatures, relative to San Diego.

What role does energy efficiency play in focus group participants’ thinking about home improvements?

Focus group participants uniformly reported they were well aware of energy-saving products like insulation for walls, ductwork, and attics, double-pane windows, LED light bulbs, and efficient appliances. They most frequently said comfort and cost-savings were the primary reasons to include energy efficiency measures in their home improvement projects, with some citing noise reduction and temperature comfort as benefits of efficient windows, and one especially liking the long life of LED bulbs. Two participants reported that replacing all of the windows in their home would be too costly and instead chose to pursue solar arrays to offset the energy costs resulting from numerous, old windows.

The participants' strong awareness of energy efficiency measures and their reasons to install them are illustrated in the following quotes.

- “The windows and the bedrooms are all on the west. The wall is hot, the old single-paned window was very hot to the touch, so I got triple-glazed windows. When you put your hand on the wall [now], the wall and the glass are the same temperature. You do not feel any heat coming in from the outside, even in Fresno, even at four o'clock in the afternoon, even with the sun shining.” (Fresno, non-Latino)
- “I'm doing energy savings because it justifies what I really want to do. I'm putting in all new LED, everything I possibly can, so that I never have to change a lightbulb again for 30 years.” (Fresno, non-Latino)
- “The appliances have stamps that say that they are energy efficient. The ENERGY STAR label. I don't buy anything if they don't have that stamp.” (Fresno, Latino)
- “We literally were stuffing as much insulation in as we could. What we found out later was aside from the house being really cool when it's hot outside, it's the sound quality. Man, I close my front door and we're really probably only 30 feet from the street because our house is on the front part of our lot but I don't hear nothing. It's great.” (San Diego, non-Latino)
- “The first thing we did was call SDG&E to have them do an assessment to tell us where we could save the most energy. Everything they said to do, we did. [...] The difference is huge, now bills are \$49. It is very good. So that was the main thing, focusing on how to save energy consumption. My husband retired last year, so we wanted to cut costs.” (San Diego, Latino)

How do focus group participants select and work with contractors?

1. Deciding between DIY and a Contractor

Across focus group participants, almost all reported they would likely take on smaller projects, like painting, themselves, but they preferred to hire a professional for larger projects, like a roof replacement or complete bathroom remodel. They varied somewhat in the threshold of what they consider a project too large to attempt on their own. For instance, one respondent said they would likely seek a contractor for any project likely to cost more than \$500, while another said their threshold was a project costing more than \$2,000, and a third said they would seek a contractor for a project likely to take more than one day to complete. Participants also considered the technical and safety requirements of a project in deciding whether to hire a contractor, saying they were more likely to hire contractors for projects that involve electricity, plumbing, steep pitched roofs, or permits.

2. Selecting a Contractor

All groups emphasized the importance of verifying a contractor's quality of work before hiring them. Latino groups recommended that homeowners “do their research” by getting referrals from friends and also said they looked at online reviews. One said that finding a good contractor is a “stressful” decision.

- “It’s not easy to find someone to do the work, it’s stressful. [Talk to] three people, set a price, and hope that it will be ok. I know that he already did some work in our houses...I hope he does it well.” (Fresno, Latino)

Non-Latinos also recommended gathering information before hiring a contractor, but relied less on referrals and more on online sources. As shown in Table 6, they mentioned six distinct websites they go to for information and reviews on contractors, compared to the two websites mentioned in the Latino groups (one of which was Google, a search engine).²

Table 3: Online Resources Used to Find Contractors

Latinos	Non-Latinos
Yelp	Yelp
Google	Home Advisor
	Better Business Bureau
	Angie’s List
	Facebook
	Nextdoor

Latino focus group participants stressed the importance of ensuring that a contractor they hire has workman’s compensation insurance, bonds, and licenses more than the non-Latinos. Among non-Latinos, participants did not mention licenses or insurance and only mentioned warranties being important. Latinos made the following comments illustrating their desire for contractors to have good credentials.

- “I would hire someone with a license. Even if I have to pay more.”
- “They must have all of their workers covered with workers comp [because] you have to be ready for the unexpected; we encountered a beehive, so they eliminated that too.”
- “If you’re doing a project make sure you know who’s doing it and you need to have trust in them. You may end up paying more later to fix it.”

Only one Latino participant had used a utility-provided list of contractors, although the majority expressed openness to using contractors from these lists. When asked about whether they had referenced these utility-provided lists, both San Diego groups discussed how many calls and door-to-door sales pitches they had received from contractors.

² Latinos mentioned Angie’s List, but not as a resource they have used to find contractors.

- “They call constantly. They call and call and call.” (San Diego, Latino)
- “They come to the house knocking on the door.” (San Diego, Latino)
- “I’ve answered the phone during the daytime mistakenly and I’ve had them come out three times. I reached my limit on talking to the people.” (San Diego, Non-Latino)

None of the Fresno participants cited experience with contractor lists provided by utilities and some expressed some distrust regarding how a contractor was added to such lists but conversely the Fresno participants expressed a high level of engagement and trust in PG&E.

What messages resonate or do not resonate with Latino customers about energy efficiency improvements?

1. Messages

All groups believed that messages emphasizing how investments in energy efficiency can lower utility bills and save money are effective for encouraging greater participation in efficiency programs. Non-Latino groups recommended “calculate your return on investment,” energy efficiency is a “proven technology that’s saving money,” “energy efficiency pays off,” and “start getting those savings now,” as effective messages to encourage others to make energy efficiency improvements.

Latinos mentioned improving the comfort of the house and helping the environment as messages to encourage efficiency retrofits, while non-Latinos did not. Latinos also mentioned how energy efficiency allows them to preserve the environment for their children and how saving energy is “good for their home as well as for the planet.” Environmental messages especially seemed to resonate with Latinos in San Diego.

2. Messaging Channels and Language

The ability to connect with the individuals representing the message both in terms of resonating with personal experiences and being able to associate with the people ethnically and socioeconomically was of high importance to the Latino group. Secondly the groups echoed the need to provide information in the mother tongue of the audience language but most importantly to make that information available through the mediums they frequent most often (Spanish TV). Latino homeowners connected well with the messages regarding savings because it was framed as information available to relieve the anxiety of high energy costs. The idea that there was information that could help and that there was a site that could help provide information without pushing financing or telling them what to do was important.

Latinos overwhelmingly recommended television commercials as the most effective channel to communicate with them about energy efficiency. Non-Latinos, on the other hand, most often recommended publicizing energy efficiency calls to action via social media. Other potential outreach channels that both Latinos and non-Latinos recommended include advertising via the utility companies and in magazines.

Latino focus group participants reported that their level of trust varies with different messaging channels. Latinos said they were more likely to trust something if they heard about it on TV compared to the internet, mail or door-to-door promotions. Latinos also viewed their local government as a source of

helpful information. For example, one Latino advised others to consider, “Where are you calling? Are you calling the city, the county, the government? You need to trust the number.”

Latinos expressed concern that messaging should be in both English and Spanish to reach the largest Latino audience, since some older people do not read English, and their children may not want to learn Spanish.

3. Feedback on Sample Advertisements

Three separate ads focusing on the themes representing some of the benefits of energy efficiency were presented to participants to test the effectiveness of getting them to seriously consider an energy efficiency project. The themes tested included comfort, savings and a concern for the environment.

When shown three different advertisements with variations on messaging and visuals, participants strongly preferred ads with concrete, unambiguous messaging with a call to action featured prominently. Ads that did not take into account regional differences in California were less appealing. The results for each ad are discussed below.

i. Advertisement 1

All groups had mixed reactions to the ad shown below:



While many people identified with the experience of feeling too hot in their home, with one participant saying, “that’s me in my living room,” they had different interpretations of the ad’s message. Some participants described the models as looking happy in front of their fans while others said they looked miserable. Thus, some participants interpreted the ad as encouraging them to turn on the air conditioning while several others thought the message promoted the use of fans. Only a few participants, all in the non-Latino group, recognized that the ad encourages them to “find out how a home energy upgrade can help.”

- “Cost, above all, is what makes people suffer, because if you do not have the money... the windows were \$17K, there were a lot of windows and doors. Not everyone has the funds readily available. My husband does not like to finance anything. He says, I do not want payments. So we waited to save what we needed.” (San Diego, Latino)

ii. Advertisement 2

The second advertisement was designed to be used by contractors to help close deals with target audiences already considering an energy efficiency project; it was somewhat more complex than the other messages tested in that it promoted both energy efficiency projects and financing. This advertisement triggered a wide range of reactions with Latino and non-Latino groups focusing on different aspects of the ad; some regional differences also surfaced. The Latinos in Fresno said that they did not identify with the home in the image because it does not look like their homes. One participant said, “It looks like they are in their big house – they could save, but I couldn’t.” Latinos in San Diego had a relatively positive reaction saying that it makes them think of energy efficiency and many other ways that they could help to “save California.” Participants mentioned recycling, composting, saving water, and saving electricity. One participant stated, “After Save California, I would add, and the world.” Another offered, “what matters most to me is that I will save. This is something personal, but if we all do it, everyone benefits.”



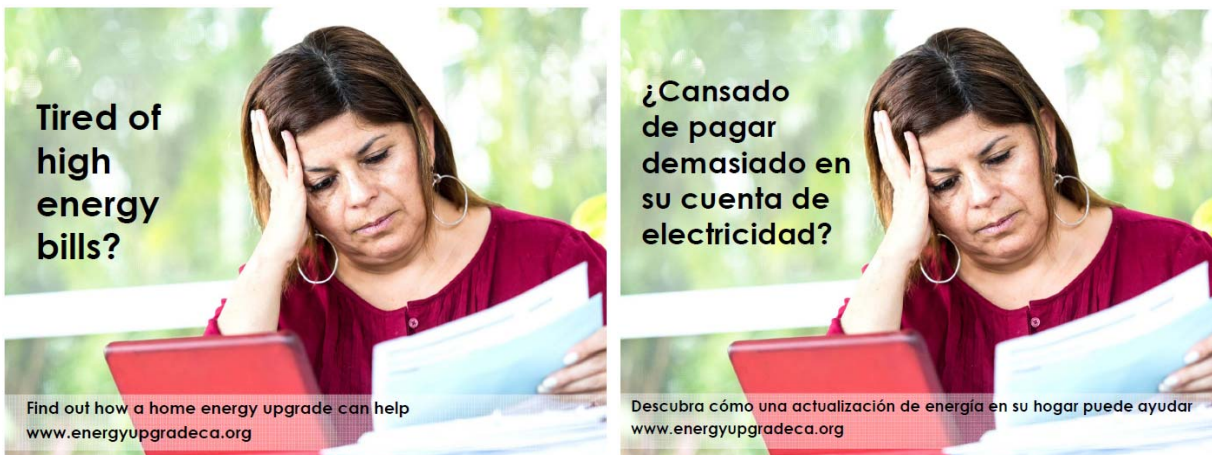
Non-Latino focus group participants in both locations critiqued aesthetic aspects of the ad but focused on somewhat different aspects of it. The non-Latinos in Fresno liked that the people in the ad looked happier than those in the first ad, but deliberated over the “Save California” messaging. One participant mentioned that he cares more about the planet as a whole, not just California. San Diego non-Latinos disliked the yellow font in which Save California was written and the “busy,” “wordy” text on the left. Others were skeptical of the “Go Green Financing” message, saying that the organization promoting this message is “not working for free.”

Focus group participants indicated that the ad’s “save California” message ignored what they viewed as significant differences between parts of the state. Some participants stated that different regions in California have different abilities to conserve depending on the climate. A participant from Fresno mentioned that it would be more difficult for people in Fresno to reduce air conditioning energy use because it is much hotter than in other parts of the state: “Each city in California is different. In San Jose there’s no A/C because it’s always fresh. Here in Fresno sometimes it’s 110.” A participant from San Diego disliked the “save California” message because she reported, “in California, 80% of energy goes to the central valley” indicating that Central Valley residents are those who should be saving, not residents in San Diego.

When asked about what feelings the ad evoked, in San Diego, the Latino group responded positively to the environmental messaging, whereas the non-Latino group found it to be judgmental; one participant “I feel like I’m eating a steak in front of a vegan.” The Fresno non-Latino group had mixed reactions to the environmental-themed ad. “Personally, and I don’t know if this will sound bad, but Save California, I really don’t care” while others said things like “If you’re a Californian, I think you need to do things like this”.

iii. Advertisement 3

All groups could identify with the woman in the third advertisement being stressed over her energy bills and appreciated the “call to action” provided by the website address.



Latino focus group participants made comments indicating that they identify with the woman in the ad, including the following quotes.

- “This is me every month.”
- “I identify with this person because I feel the same way.”
- “My water bill, that’s me. Oh my God. So much money.”

One Latino focus group participant in particular indicated that the fact that woman in the advertisement was recognizable as Latino helped him relate to the ad. When this participant was asked why he thought this was an effective ad to encourage energy efficiency, he stated “She’s Hispanic and she looks worried.” The moderator followed-up and asked him, “Is that important – that she’s Hispanic?” The man responded, “If you want to speak to Hispanics, yes.”

While their reactions to the ad were largely positive, non-Latinos did not identify with the model in the same way as the Latino participants. Instead, non-Latino focus group participants made comments like the following.

- “I don’t want to be this person”
- “She needs some help. She’s not looking very happy.”
- “She just got her PG&E bill and she’s looking at it. ‘Tired of high-end rates?’ Yeah.”

All respondents viewed the messaging at the bottom positively because it offers a “call to action” and provides information from a trusted domain name. Comments included the following.

- “This ad is like, ‘learn what's wrong with your house to save money on energy’. That speaks to me.” (San Diego, non-Latino)
- “[The other ads] did not mention improvements or websites, but this one does. That got my attention.” (Fresno, Latino)
- “From a consumer standpoint, when you know it’s a government, you know that there’s something to help you out and you’re more than willing to go check it out. When it’s like an advertisement, you’re like, ‘That’s great, but I already know it’s an ad.’ So it’s really great that you guys use the dot org instead of dot com.” (Fresno, non-Latino)

It is worth noting that ratepayer-funded programs often do not permit messaging around high utility bills, and that this could be a challenge with implementing similar advertisements.

How receptive are focus group participants to home energy audits and programs, including their experience with such programs?

Compared to non-Latinos, Latinos demonstrated greater awareness and experience with utility programs.³ In Fresno, Latinos mentioned PG&E frequently and in relation to a variety of topics. Participants discussed PG&E’s direct install services, refrigerator replacement program, home audits, and the information audits provide. For example, participants reported that PG&E programs put plastic on the inside of their windows, replaced their lights, and replaced showerheads. Participants in the Fresno Latino focus group also agreed that they view PG&E as a trusted source of information, with many reporting they had visited PG&E’s website. Most Fresno Latino participants also reported that they pay attention to their utility bills and the comparison to similar homes presented in their bills.

Latino focus group participants in San Diego reported receiving audits from the utility and following the recommendations resulting from the audit. They discussed buying new, efficient appliances, putting in foam insulation, and replacing their lighting, toilets, and faucets. Another mentioned how SDG&E inspected their home for air leaks and checked the appliances and insulation before they received a rebate.

The importance of trust arose in Latino focus group participants’ discussion of utility programs, as it had in relation to other topics. Trust did not arise in the non-Latino groups’ discussion. As with contractors, Latinos reported it is important to trust a program before engaging with it. Latinos reported greater trust of their utility company or their city or county government compared to “outside programs.”

Non-Latino focus group participants demonstrated considerably less engagement with utility programs. Only one non-Latino focus group participant in San Diego mentioned SDG&E programs, in describing

³ The utility mentioned in Fresno was PG&E and the utility mention in San Diego was SDG&E.

how a contractor told him he could get an efficient furnace for the same price as a less-efficient model due to an SDG&E rebate. Three non-Latinos participated in a PG&E program they described as “putting cushions around your plugs” or outlets.

Despite their engagement with utility programs, Latinos mentioned the need for utility programs to conduct outreach and education multiple times. Latino participants agreed, that the Latino community is not aware of utility programs and the benefits they offer.

- “I’d say that you can start by educating the community. Tell them that there are programs available and how you can take advantage of them. The people don’t know. For example, people tell me, I didn’t know that I could call up PG&E and they could help with my home.”

Participants in the San Diego Latino group suggested that efforts to educate children through schools so they will “grow up with the idea of energy efficiency” and communicate what they’ve learned to their parents and other family members would be an effective outreach strategy. This focus on children among San Diego Latinos is consistent with their prior messaging recommendations.

What are focus group participants’ attitudes toward financing for energy efficiency upgrades?

Both Latinos and non-Latinos were wary of taking out loans to pay for high-cost items. Latinos said they preferred to save cash in order to pay for a large expense rather than taking on debt, as illustrated in their statements below.

- “Not everyone has the funds readily available. My husband does not like to finance anything. He says, I do not want payments. So we waited to save what we needed.”
- “The cost is the reason why we didn’t do it immediately. I didn’t want to get in debt further, so I had to save money to fix the roof.”
- “I know that I will have to redo my roof. I’m saving [money] so maybe I can change it in two years. Because I’m scared to get a loan. I don’t want to have to pay more.”

Some Latinos stated that it was difficult for them to get a loan, with one saying: “Right now it is difficult to get a loan. My husband wanted to get a loan to pay off our debt and make just one payment, and no. Even though he had good income, and properties that are paid off, no.” Non-Latinos did not say it was difficult for them to get a loan.

Despite their preference to pay for home improvement projects from savings, Latino focus group participants, particularly those in San Diego, were aware of available financing products, and had some experience using them for home improvement projects. Non-Latinos were also aware of financing options. Notably, three of the four groups, with the Fresno Latino group as the exception, specifically mentioned Home Energy Renovation Opportunity (HERO) financing as an option to pay for energy efficiency projects.

Both Latino and non-Latino participants offered similar perspectives on loan terms and in particular said they disliked paying interest.

- “[We did not take out a loan and paid in cash because] we don’t believe in paying interest.”

- “We like to save until we can pay [in full], especially for like the solar panels and stuff for that. I don’t want to add any extra costs on to our monthly mortgage or anything like that.”

When asked to what degree the savings from energy efficiency measures were considered as an offset to any debt assumed from using financing, individuals indicated that it would matter but none of them stated that they had factored in those savings as a part of the home energy efficiency upgrades they had previously made.

After telling us how they had financed past home improvement projects, participants were asked to review a list of three loan options (Table 4) with varying contract lengths, interest rates and monthly payments.

Table 4: Loan Options

Option	Loan Amount	Loan Term	Interest Rate	Monthly Payment
1	\$5,000	5 years	1.99%	\$87.62
2	\$5,000	10 years	1.99%	\$45.98
3	\$5,000	20 years	5.99%	\$35.79

All groups agreed that loan option 2 was the most attractive because of the combination of low-interest and lower monthly payments, although option 1 was also viewed favorably by some. Lower monthly payments were regarded as providing flexibility in case of an emergency, but many mentioned they would intent to pay off the loan early. In all but one instance, option 3 was deemed highly undesirable because of the higher interest rate offered. Participants also said taking a loan with a timeframe of 20 years was unreasonable for a home project.

IV. Future Research

The focus group findings, along with insights gained through a literature review and structured interviews with contractors, will be used to inform future stages of the research project – including a survey of Latino households in Fresno and San Diego counties as well as online and field experiments to test messaging and framing strategies. Various research topics emerged as worthy of future exploration.

- **Concern for the environment:** In all groups some members indicated being more energy efficient was of high importance to them. Many members of the San Diego Latino group expressed a desire to help the environment as an important reason for conducting efficiency upgrades. Through a series of questions regarding their motivations for completing or considering various home energy upgrades we will try to identify if environmental concerns are as highly important to a wider Latino population and explore the extent to which this motivation varies by education, income, level of acculturation, and political persuasion.

- **Comfort expectations:** Members of all groups identified with feeling uncomfortably hot in their homes, with Fresno participants most likely to cite comfort as a motivator for conducting home improvements. The survey will explore perceptions and expectations for comfort by geography and level of acculturation.
- **Family and community identity:** When describing the how to motivate more homeowners to participate in energy efficiency programs, the Latinos in San Diego placed a strong emphasis on involving children from an early age and teaching them about the importance of saving energy. The idea of group cohesion or group identity was not a theme observed in the non-Latino groups; in fact there was a greater focus on individual returns and benefits for taking actions. Within the survey we will seek insight into how decision-making responsibilities are divided and whether there is a strong emphasis on including the entire family. We will also ask about the presence of multiple generations in the home to help understand this factor.
- **Fear of debt:** Through the survey we will try to tease out whether the cited preference to pay cash for any home upgrade is tied to sociocultural norms by assessing whether Latinos tend to avoid the use of credit in general. When an aversion to credit exists, we will explore whether this is due to a lack of access, a lack of experience or knowledge about financing product offerings to the extent possible.
- **Lending terms:** Focus group participants emphasized the importance of low interest rates and short loan terms. This will be further explored in the survey and potentially through a series of discrete choice experiments or through conjoint analysis.
- **Message framing:** Motivations and messaging will be further explored in the survey, with the most effective approaches receiving further testing in online experiments.

In addition to the themes observed in the focus groups, the literature and anecdotal evidence suggests that some of these attitudes and behaviors may be uniquely attributable to Latinos but that there may be variations among Latinos depending on the level of acculturation of the individual or family. This is an area of particular interest for the next steps of this project and will be tested in the survey; should this reveal observable patterns we may seek to replicate those in future experiments.

Appendix A

Focus Group Screening Questionnaire (San Diego)

Hello, I'm _____ from _____. As part of an important research study, we're asking people in your community to take part in focus groups. These focus groups will help us understand how people in San Diego make decisions about home improvements. If you're qualified we will pay you \$125 for your participation. We will be holding these groups on weekday evenings in early-April. Can I ask you a few questions to see if you qualify?

Q1. Do you or someone else in your household own your home, or do you rent?

Own- Continue

Rent- **Terminate**

Q2. Do you live in single family detached house or in a duplex?

Yes – Continue

No – **Terminate**

Q3. Do you think of yourself as Hispanic or Latino?

Yes – Continue

No – **SKIP TO Q6**

Q4. [If Latino] Do you speak Spanish?

Yes- Continue – Group 1

No- **Terminate**

Q5. We plan to conduct these groups in Spanish. Would you feel comfortable speaking in a group setting mostly in Spanish?

Yes- Continue - **Group 2**

No-**Terminate**

Q6. We are interested in talking to people who have done major home improvement projects. For instance, we want to find homeowners who have done projects like this: installing major household equipment, such as your heating or cooling system, making structure upgrades (like siding and roofing), installing things like insulation, new windows or doors, doing major remodels of bathrooms, kitchens, and other rooms, and adding an addition to your home. Have you done one of these projects in the past 5- 7 years?

Yes- Continue

No - **Terminate**

Q7. Can you tell me a little bit about these home improvement projects? What type of home improvements have you had done recently?

Recruiter Instructions: If the entire project **only** includes replacing appliances like refrigerator, washer, dryer or changing light bulbs (**TERMINATE**)

Q8. Were you involved in making decisions about that project?

Yes - Continue

No - Ask to speak to the person who was involved in the home improvement decisions, if they are available (**START OVER**) if not available (**TERMINATE**)

Q9. Did you do all of the work yourself?

Yes - **Terminate**

No - Continue

Q10. Did you hire someone to do some or all of the work?

Yes – Skip to Q12

No - Continue

Q11. Did you use someone you didn't hire – such as a friend or relative -- to do some or all of this work?

Yes - Continue

No - **Terminate**

Q12. Do you work as a contractor or installing energy efficiency items such as heating and cooling systems, insulation, , or as an energy auditor or home energy rater?

Yes- **Terminate**

No- Continue

Q13. Would you be interested in being a participant in our group discussion and talking about your home improvements?

Yes- Continue

No-**Terminate**

For Information purposes only I'd like to ask you a few more questions:

*Recruiter record the gender of the individual as best as possible without asking

Male

Female

Q14. What year were you born?

Q15. Is your total household income above or below \$64,000?

Above

Below

Q16. Besides you, how many people live in your home?

Q17. Can you please tell me if you are currently employed and if so what type of work you do?

We will be holding a focus group discussion regarding home improvements on Tuesday April 6, 2016, at 5:30 PM (Spanish) & 7:30 PM at San Diego office. For participating, you will receive \$125.00.

In order to begin the groups on time we are asking all participants to arrive 15 minutes prior to the start time.

Because we are only inviting a limited number of people to take part in this study, it is vital that everyone participates. However, if for any reason you are unable to participate in this study or have any further questions about this study, please call _____.