

Contractor Interview Findings: Perceptions of Latino Households' Views on Home Energy Upgrades

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I. 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 structured interviews conducted for one of those projects, EPC-14-037, led by the Center for Sustainable Energy (CSE). Match funding for this project was provided by Energy Upgrade California®.

The goal of the interviews was to understand contractors' views on how Latino households think about energy and energy efficiency in planning, executing, and financing home improvements. Specifically, we sought to answer the following research questions.

- How do customers think about home upgrades overall?
- Are the projects done for Latino households different than those for non-Latino households?
- Is the upgrade process different for non-Latino versus Latino households?
- How does energy fit into the entire process of home improvement, from the perspective of the contractor? From the perspective of the household, according to the contractor? How does this differ for Latino versus non-Latino households?
- For Latino households, how is energy efficiency understood, and how, if at all, does this contrast with “conservation” as a more behavioral mode of saving energy? With conventional notions of energy efficiency investments?
- How does contractor home improvement and project marketing differ for Latino versus non-Latino households? What about for energy aspects of these improvements?
- What are the most effective methods that contractors use to sell projects?
- How important is it for the contractor to be perceived as having Hispanic/Latino identity, and/or to have other viable links to the Latino community, in fostering trust and influence with Hispanic/Latino households?

Seven contractors/contracting allies working with single-family owner-occupied homes in San Diego County, Fresno County and Kern County were interviewed for this task. Contractors were recruited primarily from the network of contractors who work with or are otherwise known by CSE, though several were obtained by other methods (in particular, cold calls and referrals from other interviewees). The selection of interviewees was designed to cover a range of different firm sizes and business models, to focus on contractors who do projects for which energy implications are generally high, and to include experts who have a broad understanding of the market particularly for Latino households. Table 1 summarizes basic characteristics of the seven experts interviewed.

Table 1. Summary of characteristics of the contractors interviewed for this memo.

Specialty	Geography	Firm Type
Green design/build; whole house retrofits	San Diego County	Single-person firm
Air conditioning, heating, solar	San Diego County	Larger business
Home performance	San Diego County	Small business
Air conditioning	Fresno County	Family-owned firm
Air conditioning, heating	Fresno County	Larger business
Air conditioning	Kern County	Mid-sized business
HERS rater	Fresno County	Single-person firm

Interviews were conducted by phone in March and April 2016. Each lasted from about 30 minutes to over one hour. To reduce possible tension, no audio recordings were made. Experts were offered a \$100 incentive in gratitude for their time and insights. Though few were interested in claiming this incentive, most seemed grateful that it was offered.

The general mode of the interviews was social scientific and conversational, in keeping with the objectives of the research project and its exploratory nature. The interviewer was selective in determining which questions from the original guide (see Appendix A) would be posed in each case, and where and how to branch out when warranted.

By nature, the interviews were directed to each contractor’s experience with his or her own clientele. Thus they obviously reflect particular customer bases, rather than Latino or non-Latino homeowners in general. Some contractors offered insights from a broader range of experience, in particular, for households who had received an assessment from the firm but didn’t pursue upgrades with that company, or from their general experience outside of their workplace (e.g., growing up Latino).

Less obvious than the fact that interviewed contractors were not formally representative of residential contracting in general, contractors can primarily speak about households that pursue home improvements, and then only to households that use contractors rather than do-it-yourself (DIY) for these improvements. Latino households may be more likely to pursue home improvements by doing it themselves. They may also be less likely to pursue home improvement in general as compared to the non-Latino whites that may dominate energy efficiency program participation. So these homeowners are relatively missing from the mix represented by interview results.

II. Analysis

A basic aim of the interviews was to gain information on how Latino households and contracting might differ for Latino households versus non-Latino households along a number of dimensions related to home energy efficiency and home improvement: types of projects pursued, motivations and triggers, ways of thinking about home improvement, attitudes and practices in financing home improvements, the home improvement process in general, marketing and sales tactics that work well or poorly, etc. The results to the questions of “difference” are complex because “Latino” and “non-Latino” comprise demographic aspects (e.g., low-income vs. middle-income, recent immigrant vs. nth generation, origin Mexico vs. Argentina, etc.) as well as more subtle questions such as those pertaining to immigration status, profession and locale. Furthermore these answers depend on the nature of the home improvement (e.g., a water heater replacement or redoing the kitchen) and the varied types and experiences of contractors.

There are a number of received ideas about California Latinos and Latino households that seem widely known, if not widely believed. Many are reported in the academic and grey literature, and others are popular stereotypes such as transmitted in performances, e.g., television programs or comedy sketches, or as historical biases. These themes often served as launching points or resonant subtext during the conversations with contractors, accompanied by comments such as: “that used to be true, but probably not so much anymore,” or “there is no difference between Latinos and non-Latinos, they are all people, the only difference is the houses,” or “yes, absolutely, that’s the way it works in my experience.”

Latino Themes and Stereotypes

Before presenting detailed reporting on answers to specific questions posed during the interviews, this section lists some of the common received ideas or stereotypes that arose in the interviews, whether the interviewee appeared to concur or appeared to disagree. Each theme or stereotype is listed in italics, along with a brief summary of viewpoints expressed in the interviews. The stereotypes listed are not intended as statements about what is true (i.e., we are not claiming them) but rather statements about popular ideas of what is true.

Community and Culture

- *There is a “Latino bubble”.* Latinos prefer to buy from other Latinos, socialize with other Latinos, and may rely more on informal networks within their community. This idea was strongly suggested by some experts, but rejected by others.
- *Latinos tend to be more community-oriented and family-oriented than non-Latino whites.* Several interviewees endorsed the idea that Latinos put special emphasis on family; references to community-orientation came up primarily when speaking about locales that were densely populated by Latinos, whether a particular street or an entire town.
- *Latino households rely much more heavily on word of mouth.* Contracting businesses in general may rely heavily on referrals, but the (positive) importance of word of mouth among Latinos was noted and valued by several contractors.

- *Latinos are loyal customers.* While it may take a while to build trust, once a good relationship is established, Latinos are usually loyal customers. Some interviewees mentioned loyalty; for others, there was an implication that cost-sensitivity or previously established networks (e.g., friends and acquaintances) made this difficult.
- *Americanization, acculturation matters.* the further the generation away from initial immigrant, the more American the person will be. Most interviewees seemed to see this as nuanced issue, where the level of “acculturation” would vary by topic, e.g., n’th generation Latinos might be more likely to have “American” levels and standards of comfort (as variable as those may be), but still be relatively uninterested in credit. As at least one contractor pointed out, it’s not quite a matter of becoming less Latino, but rather an evolving Latino identity made in the context of the United States with its own power.
- *Preference to speak in Spanish.* Contractors who spoke Spanish or who had developed a large Spanish-speaking staff thought that their ability to serve in Spanish was very important, as was advertising on Spanish radio or television programs. There was often an implication that speaking Spanish was not just about literal communication but about signaling cultural understanding, caring about Latinos, and about making customers comfortable.
- *Female vs. male in household decision making.* Nobody discussed this directly, but there was an interesting pattern in which contractors seemed to give examples where Latina-headed households were particularly “ahead of the game,” in particular, dogged in pursuing whole-house efficiency upgrades, and strong in convincing neighbors to pursue upgrades with the contractor.

Housing Conditions and Practices

- *Latinos, particularly lower-income Latinos, live in old houses and often bad houses with poor air quality and low levels of comfort.* This was mostly expressed by examples and references to geographic pockets with high proportions of Latino households, even while exceptions were often mentioned as well (e.g., a very wealthy second- or third-generation Latino household that was primarily Spanish-speaking). Obviously housing quality is heavily entwined with income levels.
- *Latinos have lower energy use relative to other households and are skilled at and attentive to conservation.* Several contractors mentioned this, one pointing especially to cases where members of the households grew up in poorer areas of Mexico, e.g., without reliable electricity or electricity at all. Sometimes the explanation offered for this relatively low energy use was the affordability of the utility bill, sometimes largely biographical, and other times a matter of the characteristics of the house (e.g., designed to be able to stay relatively cool).
- *Latinos have a preference for do-it-yourself.* In general the opinion seemed to be that this stereotype was “sort of” true, though counterexamples were offered, e.g., “I know Latino households that don’t own a screwdriver.”

- *Latino households tend to repair when possible and avoid investing in larger levels of home improvement.* Overall, the impression among interviewees was that the tendency to repair rather than replace was a largely a matter of income.

Financing

- *Latinos pay in cash, and don't like or can't qualify for credit:* Interviewees knew this stereotype well. Overall the impression was that low-income and lack of community experience in accessing credit were of substantial consequence to what Latino households did, or did not, do with respect to home improvement.

Heating and Cooling Practices

One of the clearest messages of the interviews was that air conditioning costs and low summer comfort (separately or in combination) were major problems, especially for lower-income households in the Central Valley. Some contractors also mentioned heating costs, for example, very high bills in cases where the household used resistance heating. These issues were not specific to Latino households, but were more common in older homes where original construction was not up to modern standards, the house was constructed without air conditioning, the equipment was old and poorly functioning, or the distribution system or house envelope had deteriorated. These are likely also the houses where lower-income households, including lower-income Latino households, tend to live.

Several contractors mentioned very high summer electricity bills, e.g., “\$300-\$400 per month is common,” or “some households have summer bills of \$500-\$700/month.” Others, they commented, do without air conditioning to avoid the expense. One noted, speaking of Latino and non-Latino households alike:

- “If you were to look at the summer electricity bills of people in this area, it would be misleading. Many people cut way back for affordability. One taste of a \$400 summer electricity bill, and a household may be very hesitant to use air conditioning, turning it on only when it is very hot.”

Households might tolerate either high bills or high levels of discomfort for a while, or cool primarily by other means, but then eventually call the contractor in distress. One contractor described a variety of ways in which households cooled without central air conditioning, similar to those noted in Hungerford (2003). Many use evaporative cooling, which is inexpensive, but works poorly when temperatures are about 95°F or when humidity is high. Others use a combination of box fans and spray bottles, constituting sort of personal makeshift evaporative cooling system. Or, households may use a series of window units or portable air conditioners, a scalable solution where breakdowns are not unmanageably expensive to repair or replace. So, contra the idea that everybody in the Central Valley (for example) has air conditioning, these alternative cooling systems may be common among Latino households, especially those where household members grew up in areas without air conditioning and with otherwise low expectations of summer comfort relative to those corresponding to the standard central air conditioning model.

From the perspective of selling energy efficiency, these conservative practices are, in some sense, a problem. In particular, energy costs may be too low to argue convincing bill or energy savings from efficiency upgrades. One contractor, commenting on a tendency of Latino households to have low bills, said:

- “They just say: ‘I don’t need a furnace, I will put on a blanket.’ Their bills are \$60 for a month.”

This relatively make-do mindset and set of practices makes it difficult can make it difficult to sell home improvement in general. In response to a question about the extent to which Latino households consider energy efficiency cost-effectiveness in weighing home upgrades, one contractor said:

- “Though other contractors do focus on return on investment, I focus on comfort. Otherwise the return on investment can be 20, 30, 40 years. Comfort closes the deal. Very few upgrades have a short-term payback – just things like pool pumps, LEDs, and a whole house fan. These have one- or two-year return on investment; 20-30 year payback is hard to sell.”

Contractors described trying to find solutions that fit the circumstances of the household. But where comfort is the lowest, e.g., in houses built in the 1950s, income is also lower and project costs are typically high. A comprehensive upgrade to improve comfort could easily cost over \$20K, which is not appealing unless there is both high trust that the upgrades will make a difference as well as access to capital to pursue the investment.

As several contractors described, a big marketing problem for this type of upgrade is that people don’t think there is much alternative other than high discomfort or very high bills. When households do undertake such upgrades, they are often highly satisfied, some contractors noted:

- “They thank me when I’m done. They can’t believe how comfortable they can be. I solve problems.”

In summary, low energy costs and high project costs conspire to make cost-effectiveness a weak and even detrimental argument for upgrades among many Latino households, while low income and low credit create further barriers to pursuing comprehensive upgrades. In addition, education on the potential benefits and efficacy of energy efficiency may be low. This is probably one of the reasons that referrals can be very powerful. One contractor described a case where a Latina living in an older home completed an energy efficiency upgrade, and subsequently referred at least six neighbors to the same contractor. This is an example of where demonstration combined with a reliable testimonial seems to have been very effective. Even when an efficiency upgrade job might be sold on reducing energy costs, from the perspective of the interviewed contractors, the big value to the household is usually comfort.

Upgrade Motivations

Routine high energy costs, a sudden increase in energy costs, very low comfort, and equipment breakdowns were the most common broad-scale motivations cited for HVAC calls. No contractor spontaneously mentioned environmental concerns as a motivation. Asked specifically, one Fresno contractor commented:

- “Almost nobody mentions it. It’s not a driver in the valley, compared to what’s happening in the Bay Area and other urban areas, even though it is one of the places where climate change will have the most impact.”

Sometimes, there were information-related triggers, e.g.:

- “a new financing program e.g. that works on your property tax bill, a new piece of information, or a mortgage broker that may recommend us for a strategic plan – new data or insights that were not there before.”

Several contractors (all working in HVAC or home performance) raised the issue of air quality. They noted that clients rarely recognized air quality problems in the home, at least not as such, though they might note that family members had allergies. Thus contractors had specific ways of raising awareness of air quality problems (e.g., “we show how the house works as a system”) and approaching recommended improvements, ranging both from “lifestyle” (e.g., “we talk about the stuffed animals”) to fairly elaborate technical projects.

One home performance contractor described the process for educating customers about the value of a home performance or home-as-system perspective.

- “When you hire a home performance contractor you are hiring an expert, someone who can see the bigger picture in the house. Unless they see us work, it is hard for them to see the value. It is also easier to do versus managing multiple contractors.”
- “We work with people to try to get them to distinguish things that they didn’t distinguish before – to get them to understand their home differently.”

The sale, or the education that makes a sale likely, thus relies on effectively fostering this change of perspective, usually based on in-person interactions. It may be possible to sell this change of perspective by other means.

Leads and Customer Interactions

The interviews covered a variety of topics in getting and pursuing leads and in making sales.

- **Client pairing.** One strategy that contractors use to gain clients is to focus on each customer’s comfort with the company, and where possible, to pair salespeople and field crew to the characteristics of the customer – without, as one contractor mentioned, appearing racist or otherwise overdoing it. One contractor commented that their own ethnicity was an issue, in that they (a non-Latino company) had much more difficulty accessing Latino households than non-Latino households.
- **Bad leads.** One contractor noted that highly generous energy efficiency programs sometimes provided poor quality leads, e.g., from households who had a completely free home energy assessment, but who did not have income levels high enough to realistically pursue large home improvement projects.
- **Competition from across the border and DIY.** One San Diego contractor noted that he had often made field calls and prepared plans and estimates for an upgrade, but then found that the

household had taken these plans and called on day laborers who crossed the border from Mexico, or on other informal networks, to pursue the upgrade. This cross-border competition is very active near the border, he noted, though probably far less several hours north (e.g., Los Angeles).

- **Competition from programs.** A non-Latino contractor said:
 - “It is more difficult for us when we work in largely Spanish-speaking areas. In these cases, except for CARE and PG&E weatherization, where there is active knocking on doors and programs give things away, it’s more or less in direct competition with Energy Upgrade California.”
- **Advertising on Spanish-language media.** A contractor working at a company who actively pursued Latino clients emphasized the value of advertising on Spanish-language radio and television.
- **Internet.** When they face a home improvement question or a home maintenance problem, “everybody” googles it, according to several contractors. This means that what comes up first in the internet search (e.g., in looking up air conditioning) may make a big difference, and is a form of pre-education. Yelp reviews were mentioned as being extremely powerful, though not always fairly. One contractor commented that experience with Yelp and Angie’s List were several years “behind” in Fresno compared to in the Bay Area.
- **Spanish-speaking staff.** There were mixed responses to the importance of having receptionists, contractors, or field agents speak Spanish. Several responded that Spanish-speaking ability was absolutely important. One expert in San Diego, a native Spanish speaker, said:
 - “It’s very important. Ninety percent of the time they would rather have a Spanish speaker. They feel more comfortable.”

Even where clients have a fair or better command of English, conversing in Spanish increases the comfort of the interaction, some contractors said. One interviewee noted that being able to provide services in Spanish to parents or grandparents was a sales advantage that increased the confidence of the adult children making the inquiry that interactions would be fair and positive. Others said that providing services in Spanish was relatively unimportant to their business. One noted that even when a client requested a Spanish-speaking contractor, they found it was often unnecessary once they got to the field. The perceived importance of Spanish-speaking staff may vary by locale. For example, it might be especially important near the California-Mexico border.

Few of the websites for the interviewed contractors were in Spanish or even had much to signal that Spanish-speaking staff were available. Direct indications aside, photos or staff names may be enough to signal that Latino customers were important to the business and that Spanish-language services were available. Most of the contractors interviewed spoke some level of Spanish, but only one was a native Spanish speaker; the rest, for example, grew up in a bilingual households, or relied on high-school or job-site Spanish. One company had a web site that was in English but that included a notice for a separate Spanish-language customer contact line which was answered by Spanish-speaking staff.

Surprisingly, two contractors mentioned downsides of leading in Spanish for their business. One said that it could also dissuade customers, and another mentioned two incidents where he had experienced active antagonism against advertising in Spanish.

Financing

The financing questions pursued in the interviews focused on exploring differences between Latino households and non-Latino households. One reason that this is a complicated question is that conventional assumptions about how homeowners think about energy efficiency financing may not be very accurate even for non-Latino households. The following points stood out in discussing Latino distinctions.

- **Latino households may be more likely to pay with cash.** Latino households may often pay cash, even for large jobs or big purchases (e.g., a \$40,000 car), according to one contractor. These could be loans from friends or family, or owned cash. Though none of our interviewees mentioned it, informal lending schemes may be common in certain Latino (and other) populations, for example, a money pool or “tanda” (Spanish) which operating as a rotating loan among a small group of participants (Meraji 2014).
- **Latino households may have difficulty accessing credit.** Lower-income households, including Latino lower-income households, may have trouble accessing sufficient credit, even if they want it. One contractor mentioned a client for whom it had taken two years to get credit to do the desired upgrade.
 - “We had one Latino family, for example, that had trouble getting financing. They spent two to three years waiting for financing, and were finally able to get it through a Ygrene [PACE] grant.”
- **PACE and HERO are important financing mechanisms for Latino households, and one that can benefit contractors as well.** PACE loans, including HERO, have been helpful in securing financing for home improvements in cases where financing might otherwise have been difficult. This has benefits both for households and contractors. “HERO has worked well for us,” one contractor said.
- **Latino households may not “like” credit.** As also noted in the literature (e.g., Ralph 2010), Latino households may be relatively unfamiliar or uncomfortable with credit, or especially with investing based on credit. This may be especially true for newer immigrants.
- **There may be a preference for lower monthly payments versus lower overall loan cost.** Interviews rarely delved into loan details, but in discussing financing, some contractors mentioned that meeting monthly expenses could often be a big concern, in which case low monthly payments (rather than the number of payments or overall loan terms) were of most importance.
 - “Financing is very important to this business. We tell people, especially the elderly, ‘You can finance this. You can just pay \$24/month.’”

- **“Solar Band-Aid.”** Leased rooftop PV may require lower credit ratings than most home improvements; one contractor mentioned that he had seen advertisements that required a credit score of only 600. Even beyond credit issues, some households may see solar as the only viable option for affordably improving comfort.
 - “People are signing up for solar leasing or solar purchase because they believe that it’s the only way of reducing their electricity bill. It is a decent Band-Aid, but doesn’t take care of air quality.”
- **Not-doing or doing less.** Finally, the scale of improvements required to provide energy efficiency for deeper problems, such as poorly-performing air conditioning in older homes in hot areas, may be too expensive for lower-income households to consider even if financing were available. These households may do nothing or may seek lower-cost avenues to home improvement, including DIY, unlicensed contracting (as noted above), minimalized upgrades, and technical arrangements that are “makeshift” in comparison to standard upgrades. One contractor commented on the prevalence of a repair market for Latino households in contrast to pursuing larger, more elaborate, and longer-term investments. One said that there may often be a relatively “tinkerer” mindset and discomfort in discarding things that still work or that could work, and a preference for incremental upgrades. By this contractor’s assessment, the tendency to favor repair may be 50% due to financial circumstances and 50% due to mindset. Also, the contractor mentioned, the people in these households, he noted, may “work ungodly hours” and rarely be home – whereby the energy performance of that home can have low importance.

Suggested Marketing and Program Improvements

This final section of this report outlines some of the problems and suggestions that the interviewed contractors noted regarding how to improve energy efficiency program offerings and the home upgrade market in general so that it works better for Latino households. Underlying these suggestions is the fact – or at least, the impression – that the interviewed contractors (especially smaller firms) were often stretched with respect to both time and financial viability. Thus suggestions often came down to making it easier for contractors to support their customers.

- **Education of homeowners is poor.** Homeowners, especially lower-income homeowners, may often not be aware of how much more comfortable their home can be. This impedes them from considering and investing in improvements. The overall message was that there was a need to better demonstrate the value of energy efficiency (where it is valuable) and to make affordable, effective upgrades seem possible. Just as word-of-mouth referrals were considered particularly valuable in obtaining high-quality leads, believable testimonials or demonstrations could drive home the idea real improvements are possible and affordable. In commenting on this issue for Latino households specifically, one contractor said:
 - “There needs to be a way of bridging cultural gaps. There needs to be a charismatic person to break stereotypes.”
- **Education of contractors is sometimes inadequate; better and more accessible training, education, and support could help both the contractors and clients.** Contractors are not necessarily aware of permitting and compliance processes, as several interviewees noted. One

contractor suggested that improving the ability of contractors to learn how to assess the home as a system and to be able to operate in this arena could be very beneficial. He referred to collaborative lending library model where contractors were able to check out expensive equipment on loan.

- **Administration for rebates and other incentives can be clunky.** Long rebate forms and complicated procedures create difficulties and expenses for contractors and for their clients who could ostensibly access these incentives, thus impeding uptake.
 - “Everywhere you see notices about ‘rebates, rebates.’ But there are lots of hoops to jump through, and many contractors don’t want to take the risk. There are costs to contractors of staying involved.”
 - “The programs are still pretty clunky, especially the rebate process – the forms are still on paper, documentation is not digital... the way it is designed is not conducive to attracting a lot of customers.”
 - “Energy Upgrade California takes a lot of time, so it is more for off-seasons – it disqualifies a lot of upgrades, especially when it is 103 degrees outside.”
- **Important information on programs is hidden and differences in interpretation can cause problems.** When there are differences between what the contractor says and what a utility agent says, it may create confusion, distrust, and negative references.
 - “I tell people about the rebates, but they can be skeptical of what salespeople tell them. Then when they look on the utility web site, it can be hard to find any information. Or the information that they get from the utility contradicts what the contractor said. This makes the contractor look bad.”
 - “Only 15% of people who do replacements know what Energy Upgrade California is. There’s not enough education about what home performance is ... even bill inserts would help.”
- **Incentives for upgrades are often too specific, and too low.** Asked about how energy upgrade programs could be improved, one contractor said:
 - “The rebates are not universally beneficial – they are too specific in terms of what types of incentives will be offered, so many can’t take advantage. And the incentives are not high enough... The amount of incentives should be big enough that it increases business, making it worth it for contractors to do the paperwork.”
- **Take cues from the solar industry.** One contractor spoke with admiration about how well the solar industry had developed its market, in particular, making paperwork and financing easy, and taking marketing advantage of the clear benefits that rooftop PV may provide, versus the less visible, more complex, and more subtle benefits that energy efficiency provides. In parallel to incentives for solar, this contractor noted:
 - “Consider instituting a longer-term incentives program plan, where for example incentives ramp down over time, similar to what has been seen for incentivizing residential rooftop PV – maybe ramping down to zero in ten years.”
- **Improve enforcement or reduce costs for HVAC permitting.** The contractors we interviewed often spontaneously cited results from recent studies that indicate low compliance rates for

HVAC permitting (e.g., DNV GL 2014). Most seemed to agree that increasing compliance would improve the quality of upgrades completed, there was also recognition that permitting could be simply too expensive for some customers and their contractors, and that enforcement would be difficult given limited budgets.

- “Permitting might raise the cost from \$8,000 to \$10,000 for a job. But contractors aren’t getting the extra \$2K... Lower income people are paying out of pocket. Contractors won’t do it that way, they won’t be pulling permits for them.”
- **Increase financial incentives and reduce participation costs for contractors.** Closer consultation with contractors can overcome some of the apparently small difficulties that make program participation difficult or expensive. Even where the cost differential required to overcome a difficult is small, hassles and small problems create disincentives to change. For example, while admiring the effort and content design that went into providing a particular program marketing postcard, one contractor noted that the dimensions of the postcard prevented the contractor from sending the postcard out via bulk mail, thus increasing the cost of mailing, perhaps prohibitively. “If they just consulted with us more closely ...,” he said. In short, one key is to “get more money into the contractor’s pocket” – and perhaps, in so doing, increase the quality of synchronization and alliance between contractors and programs. In summary, he commented, getting more money into the pockets of contractors who specialize in serving Latino households would be one way to “improve home improvement” for these households.

III. Future Research

The interview findings, along with insights gained through a literature review and focus groups with homeowners, 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. Results from this research will be made available at www.energycenter.org/sociocultural.

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Appendix A

Structured Interview Guide

The questions below are a superset of the planned conversation. Topics may be adapted depending on contractor recruitment and responses.

1. Explain Project and Purpose of Interview

Interviewees will already have been introduced to the project through the recruitment materials, and have been assured that their responses are anonymous. To begin the interview, the interviewer will give a brief recap, emphasizing the potential benefits to Latino households and to contractors, versus focusing on marketing *per se*:

“I’m working with the State of California and the Center for Sustainable Energy to develop ways that the energy efficiency work in California can better serve Latino households and the contractors who work with these households. We are trying to figure out how Latino households think about energy when doing home improvements, and what works well for Latino households when they are considering home repairs and improvements. We think contractors are key experts here so we are asking for your insights. We won’t identify you by name in connection with anything you say. Your input will be anonymous and not traceable back to you. Any questions before we get started?”

2. Who They Are, What They Do, and Basic Firmographics

The introductory section is intended to allow the interviewer and research team to understand the perspective and interests of the contractor, his/her organization, the population served (e.g., the level of contact with Latino households versus others, and which Latino households he/she works with, in the interviewee’s words). Some internet reconnaissance will be completed in preparation, insofar as possible, covering what populations the contractor serves or markets to, specialties, whether they are licensed in California, etc.¹

- a. Can you tell me a little about type of work you do? Prompts: What types of projects, what sorts of contracting work? *Note: If not offered, the interviewer will ask the contractor (a) whether they do HVAC-related work; (b) if so, what specialties within HVAC and how much HVAC work they do relative to other projects; and (c) how much non-HVAC work they do that involves installing energy-using equipment or otherwise has major energy implications.*

¹ The State of California’s Department of Consumer Affairs maintains a Contractors State License Board (CSLB). The Consumer section of the CSLB website allows search by business name and personal name, though not by location. See <https://www2.cslb.ca.gov/OnlineServices/CheckLicense/CheckLicense.aspx>.

- b. What about your company? What areas and projects does your company cover? How many people work at your location? What is your role in the company?
- c. How would you describe the types of households with whom you work? Prompts: What proportion of your clients are Latino households? How would you characterize these households, e.g. recent immigrants? Do you work primarily in a particular geographic area? *Note: If the latter, follow up on community aspects in discussing marketing below. Optionally, ask the contractor about which type(s) of non-Latino households they work with, so we can understand any contrasts they make.*
- d. Is there any difference in the types of work you do for Latino households versus others?
- e. Do you speak Spanish? Your staff?

3. High-level Orientation on Home Improvement and Energy Issues

This section covers the details of projects and explores how contractors see the role of energy, or observe that households see the role of energy, in the work they pursue.

- a. Can you walk me through a typical project that you do? Does this differ for Latino versus non-Latino households? Prompts: What are the most common reasons for this type of project?
- b. In what circumstances do you bring up amenities such as quieter appliances, better comfort, etc.? *Note: Interviewer will explore connections between these amenities and energy efficiency.*
- c. How (if at all) does energy fit into the conversations you have with your clients? How does energy efficiency, energy use, or energy costs come up in your work? To what extent do customers bring it up? Do you/does your staff? Does this differ for Latino households versus non-Latino households? Prompt: Any examples? *Note: For cases where energy issues are out of the contractor's wheelhouse or otherwise dismissed, the interviews will skip over the specific energy questions below, but return to the issue near the end of the interview – versus insisting at this point.*
- d. How actively do you sell energy efficiency and in what circumstances? Prompts: Do you emphasize cost savings, or something else? Are there rules of thumb that you rely on for answering questions about efficiency or energy use? Would you say that you do this differently for Latino versus non-Latino households? For example?
 - a. What differences, if any, do you notice between Latino and non-Latino households in how they approach energy in pursuing upgrades? Prompts: For example, how much does energy savings or return-on-investment matter?
 - b. Are there any stereotypes² that you see with respect to Latino household home improvement and/or energy efficiency investment? Do you concur? Disagree? *Note: This line of questioning*

² “Stereotype” here is a rhetorical device, designed to help direct conversation to the contractor’s analysis of the situation and to open up dialogue on what might not be as assumed and to what they think is interesting. This can give us some analytical depth, but the term will be used with caution.

will be pursued only if the contractor seems to have a strong sense of differences between Latino and other households.

4. Financing, Money, Regulation

- a. How do your customers typically pay you for their home improvement projects? Is this different for Latino households versus other households?
- b. Do you offer financing options for customers? Do you offer or connect households to any special financing or incentive offers for energy efficiency? Which ones? How well does this work, in your opinion? Is there any pitch that you use that is especially effective for Latino households?
- c. If yes, how often do customers take you up on financing? Are there differences between your Latino customers and your non-Latino customers? Prompts: Some research shows that Latino households may hesitate to take out loans for home upgrades. Do you find this to be the case?
- d. When selling energy efficiency, how much/how often do you raise the idea of cost-effectiveness? For example? Any difference in how you do this for Latino versus non-Latino households? *Note: Literature suggests that Latino households tend to be “savers” rather than “investors”— or to be neither (Prudential 2014), which suggests that thinking about energy efficiency as an investment may be a weak sell.*
- e. When you are working on an upgrade that requires a permit, how often do households request skipping the permitting process? For what reasons? *Note: This question will be pursued only if the conversation and/or topic seem comfortable enough to note raise concerns or otherwise create tension.*

5. Marketing and Outreach

According to EMI (2015), most HVAC technicians in California are responsible for selling new equipment to their customers, and most of these are also interested in sales training.

- a. How do you or your staff usually market your services? How do you get your leads? Does this differ for Spanish-speaking households versus others? What pitches do think are most successful? *Note: Sensitive information; this question will be adapted to the tone of the conversation and may focus on community aspects, if community referrals seem to be an important dimension of the contractor’s business model.*
- b. For Latino households, how important do you think it is to have a Latino or Spanish-speaking contractor? *Note: Interviewer may explore other topics on the contractor’s perception of the influence/importance of contractor characteristics, e.g., male versus female contractors, local connections, licenses, etc.*
- c. Do you work with any organization or program -- utility programs, state programs, community-based organizations, etc. — to get leads or projects? Which ones? For how long have you done this? *Note: To the extent that there specific programs or organizations listed here, follow up later in the interview on the most interesting aspects of these connections.*
- d. What do you think, in general, of the information available on energy efficiency, energy upgrades, and energy conservation in Spanish? Do you have good examples, e.g. that are

correct and that resonate with Latino households? Bad examples? *Note: This will be asked if they seem to be familiar with this material.*

6. What They Observe about Latino Households

This section is intended to explore hypotheses about Latino household energy use and energy investments, based on the literature review, team experience, and themes that emerge as the contractor interviews proceed.

- a. I want to ask you for your observations on differences between Latino households and non-Latino households (or relevant comparison group), for the following issues. Note: Interviewer will select from the list below.
 - i. Trust of government
 - ii. Trust of utility programs
 - iii. Trust of peer group versus non peer group
 - iv. Energy efficiency as an investment
 - v. Conservation versus efficiency
 - vi. Reasons for home improvement
 - vii. DIY home improvement
 - viii. Importance of family and community
 - ix. Environment
 - x. Climate change
 - xi. Credit, loans

7. Making the Research Useful to the Contractor

This section will be adapted based on the earlier conversation and is designed to provide (at a minimum) a gesture of return to the contractor's willingness to be interviewed.

- a. What could the government, regulation, utility programs, trade organizations, etc. do that would make your job easier or more profitable? What are the biggest opportunities that you see for getting state and utility programs, regulations, or non-profits to help improve things for your business, the upgrade process, or housing quality? What changes do you recommend?
- b. What are your biggest frustrations with the information available to you on energy, energy programs, or regulations? What about for your customers?
- c. Any other comments or thoughts on what we've talked about?

8. Closing

The interviewer thanks the interviewee for his/her time and welcomes further communication should they wish. If there are any follow-up issues from the conversation, e.g., contacts the interviewee recommends, information that we have that we can point the interviewee to, or interest in study results, this will be dispatched or arranged at this point.