

# Literature Review: Housing, Energy Use, Decision-Making and Messaging among Key Ethnic Groups in California

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## Introduction

This report presents findings from our review of the academic, market, and program evaluation research on ethnic groups which are candidates for evaluation in this project, characteristics of these groups, and effective messaging and communication strategies for reaching these groups about energy efficiency topics and programs.

## Objectives and Approach

Anthropologists and sociologists have contributed to residential energy use research throughout the forty-year history of the energy efficiency field (Lutzenhiser 1993, Moezzi and Lutzenhiser 2010). While research directly examining the intersection of race or political affiliation and energy efficiency is sparse, a great deal of sociological and anthropological work contains discussions, insights, and perspectives that can inform messaging choices and communication strategies that encourage behavior contributing to energy efficiency.

This literature review collects and summarizes information useful to understanding the intersection of energy efficiency decision-making and sociocultural characteristics. This understanding will help program administrators, policy-makers, and regulators better design energy efficiency programs to reach members of minority ethnic and cultural groups.

This review begins with a discussion of considerations researchers should be aware of when studying underrepresented communities. It then reviews characteristics of the three groups identified for targeted focus in this research that might influence their response to various types of messages about energy efficiency. Finally, this review summarizes findings from academic and program evaluation research that provides insights into the most effective messages and message delivery strategies for the target populations.

## Rationale for Selecting Target Populations

The research team analyzed census data to identify groups within California whose characteristics present an opportunity to explore the extent to which sociocultural factors influence energy-related attitudes and behavior. We identified three groups, Hispanics, Asian-Americans, and African-Americans as our primary research focus in this literature review. The results of this literature review will ultimately be combined with the analysis of CalCERTS registry data and lead to the selection of a target population(s) and the designation of the project study areas (Figure 1).

**Figure 1: Sources Used for Assessing Decision-Making Criteria**

	For Literature Review	Further Refinements	
Sources	Known Underrepresented Populations	Results from Literature Review	Regional Constraints
	Census Review	CalCERTS Registry Data Analysis	Planned Research Efforts
Population of Interest	Latino Americans Chinese Americans African Americans	Outcome of Study Area Report	
Region of Interest	San Diego Los Angeles San Joaquin Santa Clara Fresno	Outcome of Study Area Report	

## Considerations When Studying Underrepresented Groups

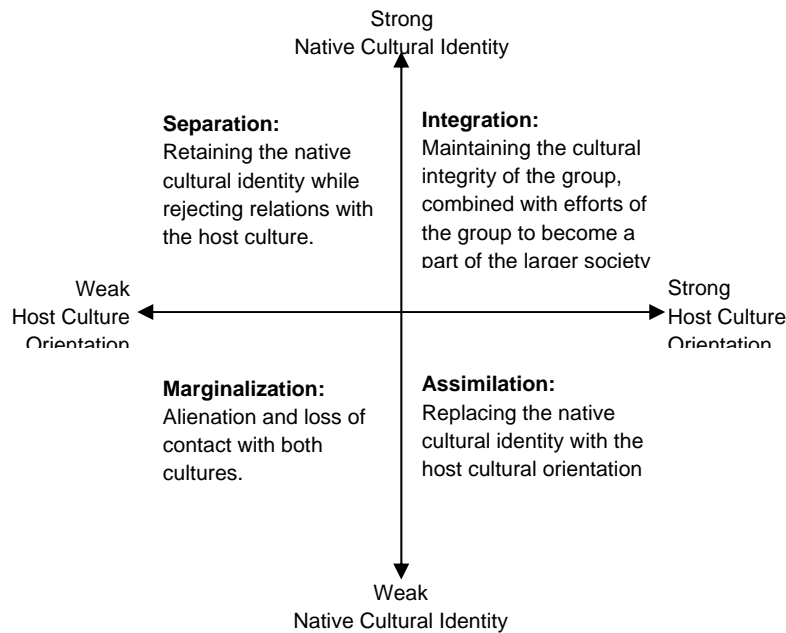
The types of “American” ethnic and racial categories examined in this review are very broad.<sup>1</sup> For example, the label “Hispanic” could be used to describe someone from a variety of distinct countries and associated cultures including Mexico, El Salvador, Brazil, or Spain. Most of the energy- and home-related literature does not make refined distinctions for ethnic terms. Discussions about “Asian American,” for example, do not necessarily distinguish between China and India, much less linguistic or other ethnic groups within those countries. Moreover, racial and cultural identity is deeply personal. The contrast between assimilation and acculturation is an important contrast for understanding the diversity within minority communities. Assimilation assumes a minority culture will eventually fully integrate into a majority culture and lose the minority cultural markers. In essence, assimilation adopts the “melting pot” perspective. In contrast, acculturation assumes persons from a minority culture, while adapting to a majority culture, will maintain sufficient cultural markers to retain a distinct cultural identity. Furthermore, acculturation suggests a bi-directional cultural exchange where aspects of a minority culture are introduced into the majority culture (Teske and Nelson 1974). Assimilation and acculturation vary depending on the social and economic context of the locale in which immigrant groups make their new home (Alba and Nee 2003) which affects self-identity. Interpersonal experiences can lead Hispanic Americans, Asian Americans, and African Americans to identify as an immigrant group even if they trace their family origins in the United States for many generations. For example, Golash-Boza (2006) found

<sup>1</sup> There is a great deal of discussion among academics about defining, categorizing, and labelling ethnic and racial identities, and the implications of these processes. While relevant, a detailed discussion of this debate is beyond the scope of this literature review (Nagel 1994; Omi and Winant 2015).

that when individuals of Hispanic origin experience discrimination or perceive that they are judged as hyphenated Americans, they become more likely to identify as Hispanic Americans.

According to Berry (1980), individuals experience a tension between maintaining a distinct cultural identity and the desirability of relations with groups in larger society, which results in four quadrants of acculturation as a function of identity and orientation. Figure 2: illustrates these four quadrants of acculturation. As the figure suggests, this typology asserts that acculturation is not a unidirectional process. It is a “multifactorial, multidirectional, and multidimensional process” (Cuéllar, Arnold, and Maldonado 1995).

**Figure 2: Models of Acculturation**



Adapted from Berry 1998.

In addition to describing the experiences of immigrant communities, the concept of acculturation has also been deployed to inform minority-majority relationships between African Americans and Anglo Americans in the United States (Landrine and Klonoff 1994, 1995). Landrine and Klonoff (1994) note that African Americans participate in a culture distinct from Anglo Americans and assert that better comprehension of key differences can inform a non-racist understanding of group differences.

For our planned survey and online experiment research, the measurement of acculturation will inform the extent to which respondents identify with their native culture compared to US culture. Understanding the integration model a respondent has experienced, allows us to target culturally-salient messaging to those who more strongly identify with their native culture as opposed to those who have completely assimilated.

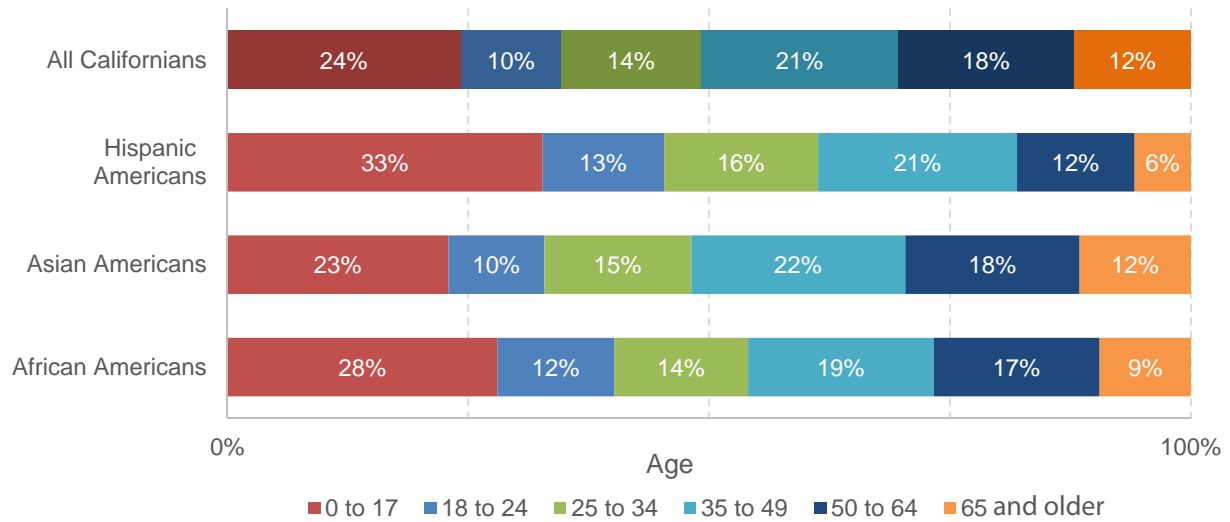
## Characteristics of Targeted Groups

This section presents demographic, socioeconomic, and housing characteristics of the African American, Asian American and Hispanic communities in California. Among the three groups, Hispanic Americans make up the largest portion of California's population, at 38%, followed by Asian Americans (15%) and African Americans (7%). Unless otherwise cited, these figures come from the American Community Survey five year estimates for 2010-2014 (US Census Bureau). The ethnic group populations described here include all respondents who identified their race/ethnicity as black, Asian, Hispanic/Latino, or any of the more detailed responses that the Census Bureau aggregates into those larger categories. The Census Bureau allows multiple responses on all race/ethnicity questions; a respondent who identifies as both African and Asian American can choose both options in the survey. In this analysis, we include all respondents in each target population regardless of any additional racial identities they reported. As a result, any individuals that identify as members of more than one of the target groups are included in the populations of *all* the groups with which they identify. For example, responses from a person who identified as both African and Asian American would be reported in both the African American category and the Asian American categories below.

## Demographic and Family Characteristics

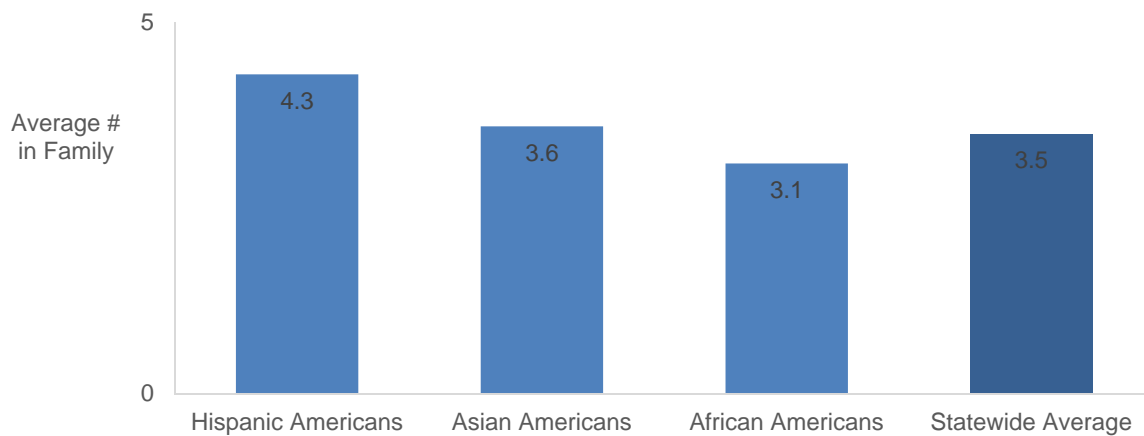
Young people are more prevalent in the Hispanic and African American populations in California than in the state's population as a whole (Figure 3). Children are particularly prevalent in the Hispanic American population. People under the age of 18 live in nearly three-fourths (73%) of the Hispanic households in California. African American (57%) and Asian American (55%) households are much closer to the statewide average (56%) in this regard. When combined, these statistics show that 33% of all Hispanic American individuals in California are under 18 and 73% of the Hispanic households in the state are home to one of those individuals.

**Figure 3: Age Distribution of Targeted Ethnic Groups in California**



Consistent with the prevalence of children in Hispanic American households, Hispanic families are, on average, larger than the other two groups and the statewide average (Figure 4).

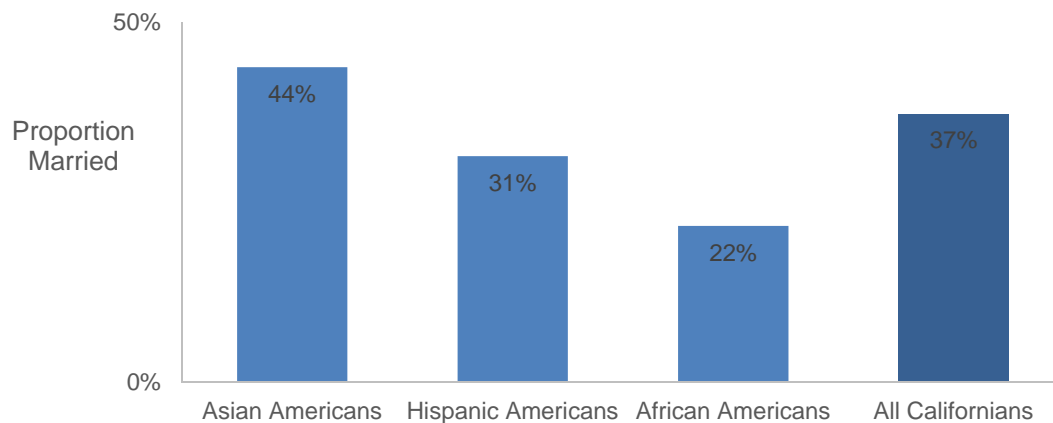
**Figure 4: Average Family Size for Targeted Groups in California**



The three groups differ in the proportion of individuals within them that are married. African Americans are considerably less likely than members of the other groups, and the larger population of California to be married, while Asian Americans are more likely to be married than members of the other groups and Californians in general (Figure 5).



**Figure 5: Proportion of Targeted Populations that Is Married**



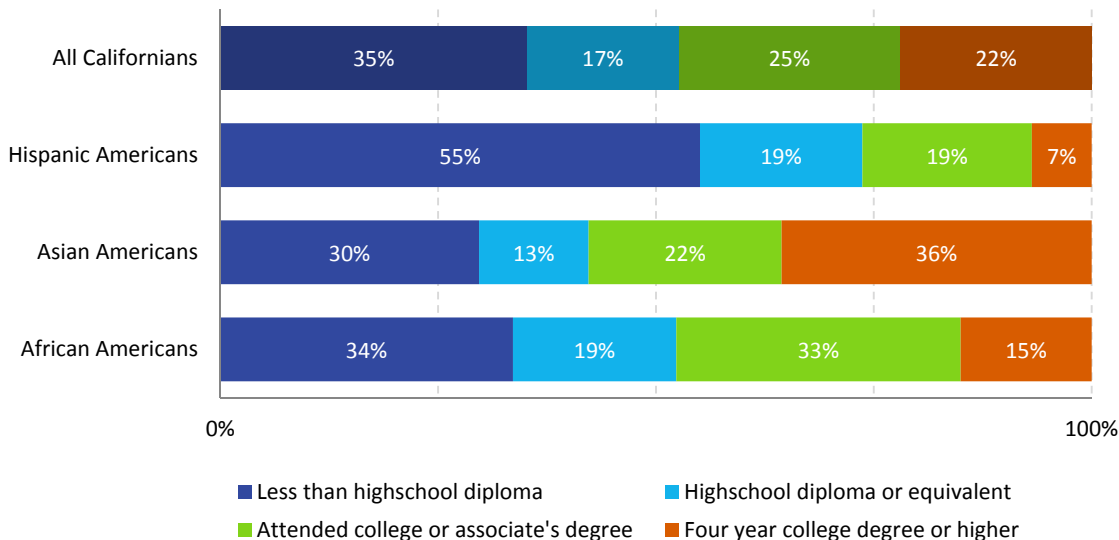
## Immigration and Language Characteristics

First-generation immigrants are more prevalent in Asian American communities in California than in Hispanic American communities, with a majority (58%) of Asian Americans in the state born outside the U.S. relative to just over one-third (37%) of Hispanic Americans. Large majorities of both Asian Americans (66%) and Hispanic Americans (68%) speak a language other than English in their homes. Notably, about half of both Asian and Hispanic Americans report they speak English “well” or “very well” (52% and 50% respectively).

## Education and Income

Among the three groups, Asian Americans are the most likely to have post-secondary degrees (Figure 6). Asian Americans are considerably more likely than members of the other groups, and the California population in general, to have bachelor’s degrees, master’s degrees, and doctorates. Hispanic Americans in California are considerably more likely than the population in general to have less than a high school diploma, but this may, in part, reflect the relative youth of the Hispanic population. The percentages shown in Figure 6 include everyone aged three and above, and Hispanics are more likely to be school-aged than the population as a whole.

**Figure 6: Highest Level of Education Attained by Targeted Group Population Aged 3 and Older**



Asian Americans, on average, earn the highest incomes among the three groups and are the only one of the three groups whose incomes is above the California average (Table 1). Hispanic Americans have slightly higher incomes, on average, than African Americans, but are, on average, closer to the poverty level, likely due to the prevalence of larger families in the Hispanic community.

**Table 1: Average Household Income and Income to Poverty Ratio of Targeted Groups in California**

GROUP	AVERAGE HOUSEHOLD INCOME	AVERAGE INCOME TO POVERTY RATIO*
Asian Americans	\$106,451	329%
Hispanic Americans	\$63,067	219%
African Americans	\$62,044	246%
All Californians	\$86,211	288%

\* ACS calculates the income to poverty ratio by taking the household family income and dividing it by the poverty threshold. The poverty threshold is a deemed dollar amount the US Census uses to determine whether a household is in poverty. The poverty threshold is dependent upon the number of people in a household. Typically, a household is determined to be in poverty if their ratio is below 100%.

## Housing Characteristics<sup>2</sup>

Asian Americans are the most likely of the three groups to own their homes and the only one of the three groups that is more likely than the California population as a whole to own their homes (Table 2).

<sup>2</sup> There is evidence of housing quality disparities between minority groups (including Hispanics, African Americans) and non-Hispanic Caucasian Americans (Mundra and Sharma 2015; Lopez-Aqueres, Skaga and Kugler 2002).

Besides having lower incomes on average, the literature suggests that mortgage lending requirements of large down payments and high credit scores have limited the ability of African Americans and Hispanic Americans to buy homes (Carr, Anacker, and Hernandez 2013; Becerra 2013). For example, the cultural tendency for Hispanic Americans to use cash rather than credit and a higher prevalence of self-employment for Hispanic Americans can make it difficult for Hispanic Americans to meet lending requirements based on credit scores and employment histories (Becerra 2013).

**Table 2: Home Ownership by Target Group Members in California**

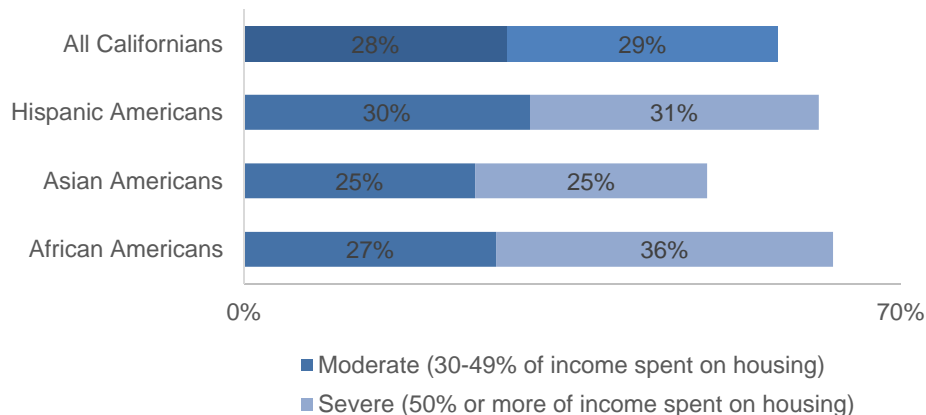
	<b>AFRICAN AMERICANS</b>	<b>ASIAN AMERICANS</b>	<b>HISPANIC AMERICANS</b>	<b>ALL CALIFORNIANS</b>
Own	38%	61%	45%	55%
Rent	60%	37%	54%	44%
Other arrangement	1%	1%	1%	1%

Given these challenges, African Americans and Hispanic Americans have had access to less attractive home financing options than members of other groups, resulting in higher interest rates and higher housing costs relative to house value (Bocian et al. 2011; Zillow 2014; Boehm, Thistle, and Schlottmann 2006; Cheng, Lin, and Liu 2015). As a result of their higher housing costs and less attractive financing options, as well as higher rates of unemployment, Hispanic American and African American households disproportionately lost their homes in the 2008-2009 mortgage crisis (Bocian et al. 2011; Rugh and Massey 2010).

Despite the challenges they face in obtaining financing to purchase homes, Hispanic Americans accounted for 56% of the net growth of homeownership between 2010 and 2013 (Becerra 2013). Hispanic Americans have expressed positive views of homeownership as a financial benefit, as a means to enable future decisions, and as a stable place to raise a family (Ibid).

Demographers consider gross rents (including both the contract rent and utility costs) of 30% of a household's income or higher to pose a moderate burden for renters, and gross rents of 50% or higher to pose a severe housing cost burden (Schwartz and Wilson 2007). A majority of Californians (57%) face at least a moderate housing cost burden, and Hispanic Americans (61%) and African Americans (63%) are somewhat more likely than average to face a burden (Figure 7). African Americans are more likely than average to face a severe housing cost burden.

**Figure 7: Proportion of Renters in Targeted Groups Facing Housing Cost Burden in California**



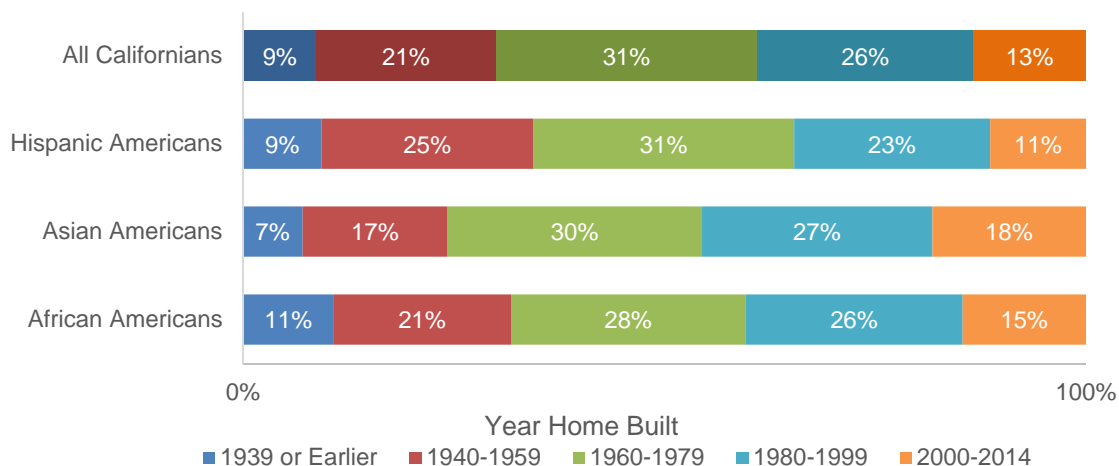
African Americans are notably more likely to live in multifamily buildings than members of the other groups, or Californians in general (Table 3). Hispanic Americans are more likely than members of the other groups to live in manufactured homes.

**Table 3: Dwelling Type by Target Group in California**

TYPE OF DWELLING	AFRICAN AMERICANS	ASIAN AMERICANS	HISPANIC AMERICANS	ALL CALIFORNIANS
Single Family	62%	74%	70%	74%
<i>Detached</i>	54%	63%	60%	65%
<i>Attached</i>	7%	9%	6%	7%
<i>Mobile Home, Trailer, or Vehicle</i>	1%	1%	4%	3%
2-4 Units	11%	6%	9%	7%
5 or More Units	28%	20%	20%	18%

There is relatively little variation between the groups in the age of their homes. Asian Americans tend to live in somewhat newer homes than members of the other groups, with 45% living in homes built since 1980, relative to 39% of all Californians (Figure 8). While there is little difference in home vintage between groups, there are differences in housing quality between minority groups and non-Hispanic whites. Both African and Hispanic Americans are more likely to live in homes that have sub-par structural features (such as lack of toilets, plumbing, or electrical fittings, water leaks, or lack of heating), as non-Hispanic whites (Mundra and Sharma 2015; Lopez-Aqueres, Skaga and Kugler 2002).

**Figure 8: Age of Target Group Members' Homes in California**



## Energy Use

The three targeted groups are relatively consistent with statewide averages in their primary home heating fuels, although Hispanic Americans are considerably more likely than the other groups, and Californians in general, to live without a primary heating system (Table 4).

**Table 4: Proportion of Target Groups Using Primary Home Heating Fuels in California**

PRIMARY HEATING FUEL	AFRICAN AMERICANS	ASIAN AMERICANS	HISPANIC AMERICANS	ALL CALIFORNIANS
Utility gas	67%	69%	62%	66%
Electricity	29%	26%	27%	25%
Bottled, tank, or LP gas	1%	2%	2%	3%
Other	1%	1%	1%	2%
No Fuel Used	2%	2%	8%	4%

Across fuel types, Hispanic American households, on average, use the least energy of the three targeted groups. Hispanic American households and Asian American households both use less energy, on average, than a typical California household. African American households are consistent with statewide averages in terms of energy use, with the exception that African American households use less delivered fuels than the average household (Table 5).

**Table 5: Average Fuel Costs by Target Group in California\***

<b>AVERAGE FUEL COSTS</b>	<b>AFRICAN AMERICANS</b>	<b>ASIAN AMERICANS</b>	<b>HISPANIC AMERICANS</b>	<b>ALL CALIFORNIANS</b>
Electric (Monthly)	\$116	\$107	\$104	\$117
Gas (Monthly)	\$41	\$35	\$34	\$39
All Other Fuels (Annual)	\$15	\$18	\$13	\$25

\* Fuel costs are self-reported by ACS survey respondent.

## Decision making: The role of women and family

For all three ethnic groups, women are highly involved in, or are the primary decision-makers for matters concerning the home (Abbas, Rao, and Wang 2014; Fitzgerald 2003; Stevenson and Plath 2002, 2006). Considerations of family and community also figure prominently in decision-making for these populations (Landale and Oropesa 2007; Gevorgyan 2010).

For both Hispanic Americans and Asian Americans, the role women play in household decision-making has grown (O’Guinn et al. 1987, Abbas, Rao, and Wang 2014). Hispanic mothers and wives tend to have primary responsibility for its management, including financial and familial matters (Becerra 2013; Alcance Media Group 2013; Stevenson and Plath 2006). According to a national real estate industry report, 86% of Hispanic American women make many of the decisions in household spending, and many seek information and complete purchases online. According to one analysis, Hispanic American women “are family oriented, bilingual, super connected, and are adopting and using all types of technology at a higher pace than non-Hispanic U.S. females” (Becerra 2013).

Asian American women have gained educational and employment experience and are active financial providers for household expenses. For example, Chinese women are often equal and active participants in making decisions concerning the home (Abbas, Rao, and Wang 2014). This growing role of women contrasts with the way household decision-making has traditionally been structured in many Asian American families. Primary decision making has traditionally been held by the father, followed by the eldest son in the home on the premise that he will have responsibility of caring for the family in the future. While these decision-makers would seek advice from elders living in the home, women tended to cede the final say in any disagreement on household decisions to their husbands and withdraw from such conflicts (Kramer 2002).

In African American households, women view themselves as their family’s primary decision-maker for virtually all product categories (Nielsen 2011), including financial services (Stevenson and Plath 2002). Family members may also serve as important advisors in African Americans’ household decisions. At all educational levels, African Americans are more likely than whites to turn to family for advice (Stevenson and Plath 2002).

Family is an important consideration in decision-making for all three groups. Martinez (2010) found that Hispanic Americans’ “motivation for activism often hinges on the real and perceived impacts on their children and families.” In Asian American cultures, the family and social network also influence motivations and decision-making, reflecting the collectivist nature of many of these cultures (Schneider et al. 2001; Gevorgyan 2010; Weber and Hsee 2000; Weber, Hsee, and Sokolowska 1998). For both Hispanic and Asian American families, these strong family ties can provide a safeguard that can, in turn, mitigate the risks inherent in household decisions. Strong social and familial networks can provide help or resources in case a risk turns out poorly (Martinez 2010, Weber, Hsee, and Sokolowska 1998).

## Reaching the Targeted Groups

Through the concept of message framing, the literature provides insight into effective themes around which energy efficiency messages could be created for the target populations. Sources also provide information about the most promising message delivery strategies for reaching underrepresented populations.

## Messaging Frames

Multiple social science disciplines have studied the concept of framing: presenting an issue within a particular context often with the intent of maximizing its relevance to a given audience (Nisbet 2009). Like a picture frame, frames downplay certain aspects of a situation and highlight others. In this way, they shape the interpretation and understanding of events and issues, and this comprehension bears on motivation to engage in certain behaviors (Snow et al. 1986). Social movement scholars have paid substantial attention to message frames and how such frames incline an individual to act, as have psychologists and behavioral economists.

### **Gain- and Loss-Framing**

One area of framing that social scientists have studied in many applications is the relative effectiveness of loss-framed and gain-framed messages in motivating action among individuals. Gain-framed messages emphasize the benefits of performing a behavior, and loss-framed messages emphasize the cost of not performing that behavior. Multiple studies have found that people are motivated more by loss-framed messages than by gain-framed messages (Schneider et al. 2001; Rothman et al. 1999; Fuller et al. 2010), although the type of behavior being promoted may impact the effectiveness of each type of message. Rothman et al. (1999) found that gain-framed messaging was more effective when encouraging health-based prevention behaviors such as the use of sunscreen, whereas loss-framed messaging was more effective in promoting detection behaviors, such as taking a mammogram.

Studies have examined the implications of loss- and gain-framed messages for promoting energy efficiency. Fuller et al. (2010), for example, notes “people are more sensitive to losses than gains,” and because they are “biased towards maintaining the status quo...tend to discount future benefits to taking

action.” In this context, loss-framed messages are more effective in motivating people. One loss-framed messaging strategy that multiple studies have found to be effective in promoting energy efficiency is to leverage peoples’ aversion to waste (Shelton Group 2014, US DOE 2015). For example, programs may be more successful with messages that encourage people to “not waste money or energy” instead of using a sacrifice-oriented message that encourages saving money or energy (US DOE 2015). Moss (2008), however, also notes that an aversion to waste may work against adoption of energy efficiency because many residential retrofit programs effectively ask families to retire “perfectly good,” working appliances, which can be perceived as wasteful.

### **Framing for Targeted Ethnic Groups**

Relatively few studies have sought to identify the most effective metaphor or linguistic frames for presenting energy efficiency to Hispanic, Asian American, and African American populations specifically. Furthermore, while mentioned by contractors as an effective outreach tool, few studies have sought to measure the effectiveness of speaking the target’s language, such as Spanish or Chinese, to sell energy efficiency projects. Existing literature does not allow for a comparison of the most effective frames for each group, but the available studies indicate three characteristics on which ethnic groups may differ that are relevant for framing energy efficiency messages:

- **Relationship with, and attitudes toward, nature and the environment:** Studies have found that Hispanic Americans often view a connection between people and the land and environment in which they live. As a result, Hispanic Americans may be receptive to messages that emphasize the protection of land, nature, and farmland, among other benefits (Gade 2013, Speiser and Krygsman 2014). While these messages may be effective for Hispanic Americans, one study found messages focused on being close to nature were least likely to resonate with African Americans (Speiser and Krygsman 2014)
- **Level of collectivism in culture and role of family:** Researchers have found that Asian Americans are most responsive to messaging frames that address the collectivist nature of their culture, for example emphasizing membership within a group, community relations, interdependence, information sharing, and many-to-many forms of communication like forums (Gevorgyan 2010). Consistent with these themes, Speiser and Krygsman (2014) suggest that messages on climate change targeting Asian Americans highlight that climate change solutions can benefit family wellbeing and that many viable climate change solutions exist. Hispanic audiences may also be receptive to messages focused on “working hard to achieve important goals for their children and families” (Muñiz 2004:36).
- **Trust in various societal actors as messengers:** One study found that Hispanic Americans, Asian Americans, and African Americans were all most likely to trust scientists as messengers on climate change, but the proportion of each group that found scientists trustworthy ranged from 62% for Hispanic American respondents to 79% for Asian American respondents (Speiser and Krygsman 2014). The groups also varied in their ratings of other types of messengers’ trustworthiness regarding climate change, with a majority (58%) of Hispanic respondents citing first responders as trustworthy, and a majority of African American respondents (57%) citing the



President of the United States as trustworthy on climate change (Ibid). In a focus group-based study on how low-income Hispanic Americans and African Americans view energy conservation and utility energy programs, Hall (1989) stressed the low levels of trust that both groups expressed with respect to their energy utilities. Furthermore, Hall notes, these groups did not trust people outside their peer group for information on energy conservation.

## Message Delivery Strategies

### Mass Media Outreach

Evaluations of Southern California Edison's (SCE's) Community Language Education and Outreach (CLEO) program have investigated the mass media outlets favored by the program's various target populations. Chinese-American participants reported they would normally expect to find information pertaining to energy efficient products and programs in newspapers (55%), radio (24%), and television (14%) (ASW Engineering Management Consultants, Inc. 2006). African Americans reported that they would prefer to learn about energy efficiency program offerings through television, mail, and the Internet (McLain ID Consulting and KVDR Inc. 2010). When program administrators pursued media outlets targeting the Hispanic community as an outreach method, they found that advertisement costs in Hispanic media outlets were two to three times those of Asian media outlets (Kan et al. 2013).

### Community Based Organizations and Events

Research suggests, and some efficiency programs have found, that outreach efforts leveraging community-based organizations (CBOs) and community events can be an effective way to reach minority populations who might have lower levels of trust in energy utilities, large institutions, or the government. For example, Fitzgerald (2003) notes that Hispanic Americans may be more likely to distrust and have limited experience with banks. An evaluation of SCE's CLEO program found that Hispanics tend to be wary of unknown organizations and are wary of free items and offerings because they expect there to be back-end costs (Kan et al. 2013).

To overcome these challenges, programs and other entities seeking to reach minority communities may benefit from establishing a presence in the community by partnering with grassroots and community-based organizations. Based on focus groups with Hispanic and African Americans, Hall (1989) notes both groups trust local neighborhood or community groups once they have established relationships with these groups. Furthermore, based on research on financial education programs, Muñiz (2004) suggests implementing financial education efforts for Hispanic Americans through community-based organizations. These organizations can present the financial products in a way that will be relevant to the community.

In addition to forming partnerships with CBOs, participating in community events can be an effective way to present efficiency program information to minority communities. For example, local youth sports leagues draw large numbers of community members and are a good avenue for event-based marketing. Through sponsorship, or providing tangible resources like uniforms, an organization can gain visibility

and credibility with the target group (Stevenson and Plath 2006). By marketing at existing community events, efficiency programs can reach large numbers of community members without the added difficulty of organizing and drawing people to a program-specific event (Research Into Action 2015).

Participation in certain types of events may be particularly effective in reaching specific minority groups. For example, Paustian (2001) suggests financial institutions invest in education and the organizations and events that support it because Hispanic Americans in particular care about education and may view financial groups investing in education favorably. Connecting with churches may be a particularly effective way for programs to reach African American communities (Paustian 2001; Billingsley and Caldwell 1991). Churches have a long history of educational program outreach and implementation in African American communities and are considered a trusted point of contact for resources (Billingsley and Caldwell 1991). In their study of African American churches, Billingsley and Caldwell (1991:435) found that the churches in their sample “have established elaborate and extensive networks of collaboration with other churches and community agencies to carryout [program outreach].”

## The Influence of Political Views on Energy Use

### **Political Identities**

There is limited research on political differences in financial decision-making. What research has been conducted indicates that political liberals and conservatives are more similar than different when it comes to financial decision-making. Morris et al. (2008) found a political difference in tolerance for risk, but only when one of the choices was labeled as “conservative” and people’s political identities had been primed. This effect is due to the “linguistic resonance” between identifying as a Republican and the word “conservative”—it is not due to a value based difference. The authors noted that there is not a general relationship between political ideology and financial decision-making, because when political identity was not primed, there was no difference between Democrats and Republicans.

Democrats and Republicans do differ in their response to taxes. Sussman and Olivola (2011) demonstrated that individuals who identify with anti-tax political parties (e.g., Republicans) will go to greater lengths to avoid taxation than individuals who identify with pro-tax parties (e.g., Democrats). This finding is consistent with Hardisty et al. (2010), as they found that Independents and Republicans were less willing to pay more for an energy-consuming product when the extra cost was described as a carbon tax rather than a carbon offset. Therefore, the limited research conducted has found that an established political difference in financial decision-making is an aversion to taxation.

### **Political Perspectives**

A number of studies show that Americans’ political leanings affect their energy-related behavior and attitudes (Costa & Kahn, 2013a,b; Dastrup et al., 2012; Gromet et al., 2013; Hardisty et al., 2010; Petrovic et al., 2014; Schwartz et al., 2015). The energy domains covered in our literature review include energy conservation (Costa & Kahn, 2013a, 2013b; Schwartz et al., 2015), investment in energy efficiency and solar (Gromet et al., 2013; Dastrup et al., 2012), paying more to offset emissions (Hardisty

et al., 2010), and attitudes toward governmental and personal mitigation measures (Petrovic et al., 2014). Overall, the results demonstrate that politically-liberal individuals (as compared to politically-conservative individuals) are more likely to reduce their energy use and invest in energy efficiency and solar, are more willing to pay to offset their emissions, and hold more positive attitudes toward mitigation measures.

However, many of these results are moderated by the message framing used in the decision-making context. This ideological divide emerges more strongly when environmental messages are invoked (Gromet et al., 2013; Petrovic et al., 2014; Schwartz et al., 2015) or when paying for offsetting is described as a tax (Hardisty et al., 2010). This divide is less pronounced when health messages are used (Petrovic et al., 2014), when only cost information is provided or highlighted (Gromet et al., 2013; Schwartz et al., 2015), or when extra costs to offsets emissions are described as carbon offsets (Hardisty et al., 2010). Therefore, the message frames used must be carefully considered with respect to how they resonate with individuals' values as a function of their political leanings.

With regard to other field experiments in energy, these studies show that the type of information provided influences energy conservation (Asensio & Delmas, 2015; Nolan et al., 2008) and that community-based social marketing strategies can be effective in increasing investment in energy efficiency and reducing energy use (Schultz et al., 2015). Asensio and Delmas (2015) show that providing health-related information was more effective in reducing energy use than providing cost-only related information to residents (and that this pattern was especially true for households with children). Both Asensio and Dalmas (2015) and Nolan et al (2008) demonstrate that there is a disconnect between what people say is important to their energy behavior (e.g., cost) and what in fact influences their behavior (e.g., health information and information about how they compare to their neighbors). These findings suggest caution in using what people say matters to them to shape appeals. Schultz et al (2015) provide a framework for social marketing in communities, and their emphasis on identifying barriers and benefits in the particular communities, and then conducting promotions that directly address those barriers and highlight the benefits may be helpful.

There is a large literature on values related to environmentalism, two of which are reviewed here as they are particularly relevant. Kalof et al (2002) show that Hispanics and Black score higher on altruism than Whites, which is a self-transcendent value that has been linked to environmentalism in previous work. Schultz and Zelezny (2003) argue that Americans prioritize values related to self-enhancement (e.g., achievement) over self-transcendent values (e.g., altruism), and that the mistake that environmental messages make is that they primarily rely on self-transcendence to promote environmentally-friendly behaviors rather than appealing to individuals' self-interest.

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