



Consultants to the Housing Industry

**New Homeowner Energy Preference Survey
Closings June 2009 through May 2010**

Specially Prepared for:



Prepared by:

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I. Introduction

Woodland, O'Brien & Scott is a management consulting and research firm specializing in providing counsel to real estate services companies nationwide, in the area of customer presences, satisfaction and relations, with the specific objective of assisting clients to:

- understand current market absorption and customer preferences
- achieve high levels of customer satisfaction on a consistent basis
- increase customer referral sales as an integral part of the company's marketing efforts

To that end, Woodland, O'Brien & Scott solicits the feedback from current homeowners. This customer feedback serves as the basis for determining customer preference and attitudes for our client's services.

This analysis and findings have been prepared as a result of the feedback from new homeowners (existing homes or new construction) - customers who closed on their new residence generally from June 2009 through May 2010. Responses have been received from approximately 2.6% of those contacted (700 out of 25,851). Given this level of response the results presented in this report may be considered representative of the reaction of the remaining homeowners during this timeframe.

Feedback for this study period was received from homeowners in 13 geographically distributed Metropolitan Statistical Areas (MSA details and their respective Margins of Errors (ME) in tab 7). More detailed results for each region and MSA are shown in the statistical reports and comment summaries. Going forward, up-to-date results and full details will available on our website at www.woodlandobrien.com.

All observations and recommendations are presented without the benefit of significant knowledge of ESC Member operations. Therefore, these results are unencumbered by any internal prejudices within those operations. We believe these finding should serve as a guide for management to better understand current energy source absorption, customer preferences, and serve as a quantitative benchmark for measuring future progress.

II. Statistical Methodology

A. Data Collection

Thirteen Metropolitan Statistical Areas (MSA's) were included in the sample. Each MSA was classified into one of five regional markets—Midwest, Northeast, South, Southeast and West. Within each MSA, home addresses were generated as the sampling frame based on the closing date of new and existing home sales over the time frame 6/1/09 to 5/31/10₁. A minimum home sale price was chosen for each market to represent a majority of home sales in that market. Since each MSA has a different cost of living index, modifying the minimum sale price within each MSA allowed for similar households to be represented in the study. A random sample of addresses was selected to have a survey mailed to them from each MSA's sampling frame. Final samples included all returned surveys from each MSA's random sample. Details of the MSA's and their respective sampling information are provided in the table on the next page.

B. Statistical Analysis

The population of interest for this study is households that were included in the original sampling frame from the 13 MSA's. Within each MSA, the sample responses were treated as a simple random sample (SRS) representative of the MSA's entire study range. Both the regional and national study results were computed based on a stratified random sample of the MSA's included in the study. Estimates and their associate Margin of Error (ME's) are weighted based on the number of transactions within each market. The only exception to this is preferred and current estimates of at least 1 gas appliance, all 4 gas appliances and all 4 electric appliances within each region. Those estimates are weighted equally for each survey response and then weighted by the regional transaction size for the national estimate. Estimates of the natural gas market share were computed using simulations of 10,000 trials based on projections of current and preferred energy sources. Margin of errors for all estimate were computed using a 95% confidence level.

C. Constraints of Study and Data Analysis

The sampling method for each MSA was based on a direct mail survey resulting in an expected response rate of 2-3%. Assuming that the households responding are representative of all households in the population then the computed ME's and the resulting analysis are valid estimates of the true parameters of interest. To account for potential error in the ability of those respondents to represent the population of interest, a conservative estimate of the ME is reported. Some respondents failed to answer certain questions, or their answer choices were not anticipated, resulting in the omission of those responses from this report/analysis. All non-answered or unanticipated responses were omitted in this study, but were not removed from the Energy Solution Center website creating slight statistical differences (within the margin of error) between this published report and the website statistics. It is assumed that these omitted responses are not in any way dependent upon the household's current and/or preferred energy. The question involving current fireplace energy source did not differentiate in not having a fireplace and not knowing the energy source of the fireplace. Consequently, the estimated percent with a fireplace assumes 'none/I don't know' refers to none.

1. Dover, DE expanded the closing dates to include 10/1/07 to 5/31/10 and Salisbury, MD expanded the closing dates to include 2/6/09 to 5/31/10.

D. Metropolitan Statistical Areas

| Region | Metropolitan Statistical Area | Minimum/ Median Sale Price | Transactions Selected | % of Market | Mailed Surveys | # Survey Responses & Rate % |
|--------------|-------------------------------|----------------------------------|--------------------------|----------------|-------------------|-----------------------------------|
| MW | Indianapolis | \$80,000 \$134,900 | 12,238 | 87% | 2500 | 82 2.98% |
| | St. Louis | \$55,000 \$157,017 | 20,557 | 65% | 2500 | 69 2.51% |
| NE | Dover | \$80,000 \$199,000 | 2,063 | 80% | 2,063 | 55 2.67% |
| | Salisbury | None \$175,000 | 677 | 100% | 677 | 25 3.69% |
| South | Austin | \$120,000 \$196,000 | 17,222 | 84% | 1250 | 37 2.69% |
| | El Paso | \$70,000 \$137,000 | 4,555 | 78% | 1250 | 32 2.33% |
| | San Antonio | \$80,000 \$163,000 | 14,119 | 79% | 2500 | 55 2.00% |
| SE | Atlanta | \$50,000 \$162,900 | 40,508 | 67% | 2500 | 89 3.24% |
| | Pensacola/ Panama | \$70,000 \$155,000 | 5792 | 70% | 1250 | 46 3.35% |
| | Tampa | \$70,000 \$149,000 | 25,954 | 67% | 1250 | 33 2.40% |
| West | Las Vegas | \$70,000 \$155,000 | 35,743 | 73% | 1925 | 57 2.96% |
| | Los Angeles | \$190,000 \$380,000 | 105,019 | 85% | 3500 | 72 1.87% |
| | Phoenix | \$80,000 \$160,000 | 59,314 | 73% | 1925 | 48 2.49% |

When referring to a market MSA, the following geographical areas are used as defined by the Office of Management and Budget.

| Region | MSA | Geographical Areas |
|--------|--------------|--|
| MW | Indianapolis | Boone County, Brown County, Hamilton County, Hancock County, Hendricks County, Johnson County, Marion County, Morgan County, Putnam County, Shelby County |
| | St. Louis | Bond County, IL; Calhoun County, IL; Clinton County, IL; Jersey County, IL; Macoupin County, IL; Madison County, IL; Monroe County, IL; St. Clair County, IL; Crawford County, MO (part - Sullivan City)**; Franklin County, MO, Jefferson County, MO, Lincoln County, MO; St. Charles County, MO; St. Louis County, MO; Warren County, MO; Washington County, MO; St. Louis city, MO |
| NE | Dover | Kent County |
| | Salisbury | Somerset County, Wicomico County |
| South | Austin | Bastrop County, Caldwell County, Hays County, Travis County, Williamson County |
| | El Paso | El Paso County |
| | San Antonio | Atascosa County, Bandera County, Bexar County, Comal County, Guadalupe County, Kendall County, Medina County, Wilson County |
| SE | Atlanta | Barrow County, Bartow County, Butts County, Carroll County, Cherokee County, Clayton County, Cobb County, Coweta County, Dawson County, DeKalb County, Douglas County, Fayette County, Forsyth County, Fulton County, Gwinnett County, Haralson County, Heard County, Henry County, Jasper County, Lamar County, Meriwether County, Newton County, Paulding County, Pickens County, Pike County, Rockdale County, Spalding County, Walton County |
| | Pensacola | Escambia County, Santa Rosa County |
| | Panama | Bay County |
| | Tampa | Hernando County, Hillsborough County, Pasco County, Pinellas County |
| West | Las Vegas | Clark County |
| | Los Angeles | Los Angeles County, Orange County |
| | Phoenix | Maricopa County, Pinal County |

Availability of Information on Metropolitan, Micropolitan, and Combined Statistical Area and New England City and Town Area Definitions: This bulletin is available from the OMB web site at <http://www.whitehouse.gov/OMB> -- go to "Bulletins" or "Statistical Programs and Standards."

E. Survey

Woodland, O'Brien & Scott
1329 County Road D Circle East
St. Paul, MN 55109

Standard
US Postage
PAID
Capitol Direct

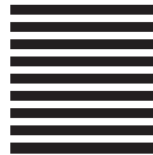
Thank you for your time in answering a few questions and for your support.



A few seconds of your time will result in a donation to one of these outstanding organizations.



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO 6911 ST PAUL MN

POSTAGE WILL BE PAID BY ADDRESSEE

WOODLAND, O'BRIEN & SCOTT
1329 COUNTY ROAD D CIRCLE EAST
ST PAUL, MN 55109-9981



Please tell us about your energy preference.



Dear Homeowner,

A donation to a charity of your choice will be made as a way to thank you in advance for your cooperation in this short survey. As a homeowner, we're looking for your feedback regarding your current and preferred energy sources.

Please take a moment to complete the short 6 question survey below and drop the postage paid card in the mail so your opinion can be counted. When we receive your response, we will donate money to the charity of your choice as selected at the end of the survey.

Thank you again for your cooperation; we very much appreciate your time and effort. Enjoy your day!

Woodland, O'Brien & Scott and Energy Solutions Center

Please tear off and drop the card in the mail.

Your Current Energy Sources - Please indicate what your current energy source is for the following:

| | | | | | |
|-----------------|--------------------------------------|-----------------------------------|----------------------------------|-------------------------------|--|
| Home Heating | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Propane | <input type="checkbox"/> Oil | <input type="checkbox"/> I don't know |
| Water Heater | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Propane | <input type="checkbox"/> Oil | <input type="checkbox"/> I don't know |
| Cooking / Stove | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Propane | | <input type="checkbox"/> I don't know |
| Clothes Dryer | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Propane | | <input type="checkbox"/> I don't know |
| Fireplace | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Propane | <input type="checkbox"/> Wood | <input type="checkbox"/> None / I don't know |

If you had the choice of natural gas or electric for the following, which would you prefer?

| | | | |
|-----------------|--------------------------------------|-----------------------------------|---|
| Home Heating | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Doesn't matter |
| Water Heater | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Doesn't matter |
| Cooking / Stove | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Doesn't matter |
| Clothes Dryer | <input type="checkbox"/> Natural Gas | <input type="checkbox"/> Electric | <input type="checkbox"/> Doesn't matter |

Please share a few reasons why you have these preferences. _____

Please share any dislikes with your current energy sources. _____

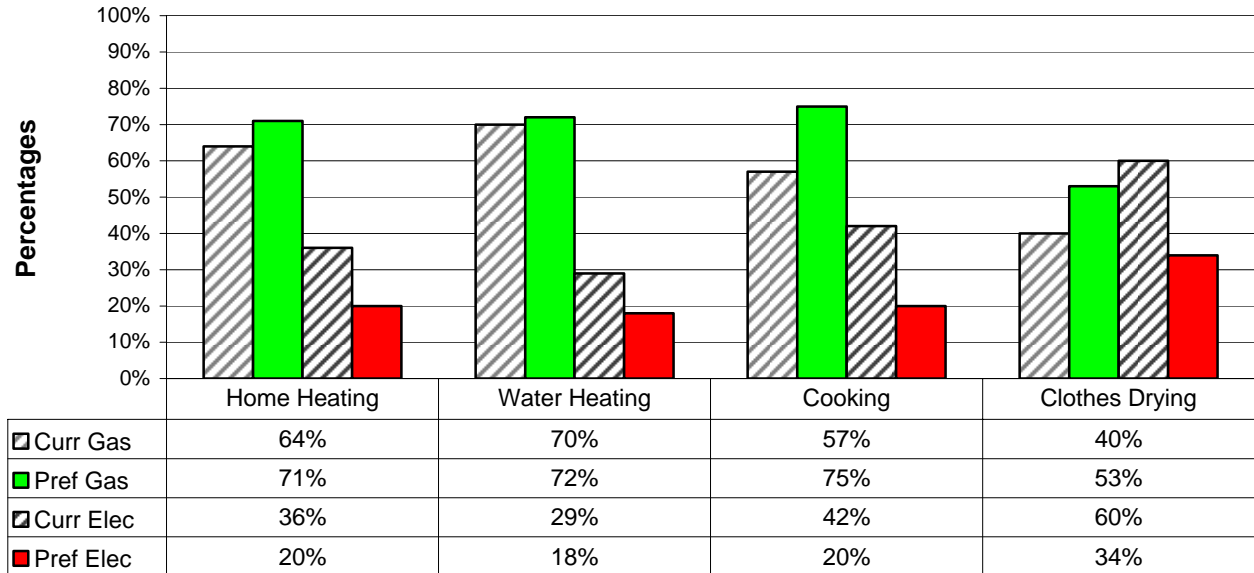
Which energy source would you recommend for heating to a family member or friend? Natural Gas Electric Other _____
Please identify your charity. Habitat for Humanity Treats for Troops World Wildlife Fund Boys & Girls Clubs of America

Thank you! Please drop this postage paid business reply card in the mail today!

III. Findings

A. National Charts & Data

National Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the 13 Metropolitan Statistical Area (MSA) surveyed indicate the current total market absorption for natural gas home heating is 64% and electric home heating is 36%. These new homeowners were also queried as to what energy source they preferred in their home. Natural gas was the most preferred heating source adding 7 points to the current market share and reaching 71%. Electric heated home preference declined 16 points from the current market share to 20%. Both these differences from current to preferred exceed the margin of error and thus, at the highest level assumption of this customer preference data would suggest that even though natural gas heated homes have the highest market share; natural gas home heating market has opportunities for expansion.

When parsing the database by the survey respondents' current heating energy source, we found 85% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate.

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 40%. In other words, more than half of the current electric heating homeowners would prefer a different energy source. In actuality, natural gas heating was the current electric heating homeowner's preference.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 74% indicated they would recommend natural gas, while just 19% indicated they would recommend electric heating. This constitutes nearly a 4 to 1 natural gas heating willingness to refer advantage over electric heating to family members or friends.

In the 13 MSAs surveyed –

- 1) Homeowners of recently purchased homes chose a natural gas heated home approximately 2 out of 3 times over an electric heated home.
- 2) More homeowners preferred natural gas heated homes than purchased natural gas homes.
- 3) Less than half of the homeowners who purchased an electric heated home prefer their next home to be electric heated.
- 4) Homeowners who had a natural gas heated home had double the preference for natural gas heated compared to electric heat homeowners.
- 5) The greatest opportunity for natural gas expansion appears to be in cooking where natural gas is preferred by 75% compared to just 20% for electric cooking.
- 6) Five percent of the homes currently are reported as ‘all gas’ yet, 45% of the respondents said they prefer an ‘all gas’ home – an 800% increase! Twenty-four percent reported ‘all electric’ homes with only 12% preferring ‘all electric.’
- 7) Customer comments are more positive in support of natural gas as an energy source for all appliances and are more emoting (“feel,” “like,” “love,” etc.).

The national findings do not exactly match the absorption and retention rates of the five regions or all 13 cities in our study, but they are more the norm than the exception. Only three out of 13 cities saw natural gas retention rates decline. This may have been due in part to these three cities having the highest current natural gas heating market shares (average 80%). In these three markets, electric heated home preference increased to 28%.

National Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for home heating, water heating and cooking compared to electric. Electric is currently the predominant energy source for clothes dryer use. It is estimated that 54% of homes nationally have a fireplace with a Margin of Error (ME) = $\pm 5\%$ and in those homes with fireplaces natural gas serves as the primary source of energy for the fireplace.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating, water heating and cooking. To a lesser degree, but still significant, natural gas is the preferred energy source for clothes drying, too.

When preference is broken down by the homes current energy source the data shows a much stronger preference/satisfaction with natural gas. Within each category, those currently using natural gas largely preferred to stay with natural gas. Among electric users, the preference to stay with electric was much weaker than natural gas in every category - generally, natural gas was preferred more than double that of electric.

When asked what energy source you would recommend to a family member, natural gas was chosen 74% compared to 19% for electric and 8% other with a ME= $\pm 5\%$.

Projections

Projected market share for natural gas shows a definitive increase in both cooking and clothes drying. Among households wanting at least 1 gas appliance there is a slight projected growth, while there is significant growth for households wanting all gas appliances.

| Current Energy Source | | | |
|-----------------------|---------------|----------|----------|
| Appliance | Energy Source | Estimate | \pm ME |
| Home Heating | Natural Gas | 64% | 5% |
| | Electric | 36% | |
| Water Heating | Natural Gas | 70% | 5% |
| | Electric | 29% | |
| Cooking | Natural Gas | 57% | 5% |
| | Electric | 42% | |
| Clothes Drying | Natural Gas | 40% | 5% |
| | Electric | 60% | |
| Fireplace | Natural Gas | 52% | 7% |
| | Electric | 14% | |
| | Wood | 31% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|----------|----------|
| Appliance | Energy Source | Estimate | \pm ME |
| Home Heating | Natural Gas | 71% | 5% |
| | Electric | 20% | |
| Water Heating | Natural Gas | 72% | 5% |
| | Electric | 18% | |
| Cooking | Natural Gas | 75% | 5% |
| | Electric | 20% | |
| Clothes Drying | Natural Gas | 53% | 5% |
| | Electric | 34% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|----------|----------|
| Appliance | Current Source | Estimate | \pm ME |
| Home Heating | Natural Gas | 85% | 9% |
| | Electric | 40% | |
| Water Heating | Natural Gas | 85% | 9% |
| | Electric | 42% | |
| Cooking | Natural Gas | 88% | 9% |
| | Electric | 35% | |
| Clothes Drying | Natural Gas | 85% | 10% |
| | Electric | 53% | |

| | Status | Estimate | \pm ME |
|----------------|-----------|----------|----------|
| At least 1 Gas | Current | 74% | 5% |
| | Preferred | 82% | |
| All Gas | Current | 5% | 5% |
| | Preferred | 46% | |
| All Electric | Current | 24% | 5% |
| | Preferred | 12% | |

B. Midwest Region Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for home heating and water heating compared to electric. Electric is currently the predominant energy source for cooking and clothes drying. It is estimated that 62% of homes in the MW region have a fireplace with a ME=±9%. Natural gas and wood serve as the primary sources of energy for those homes with fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating and water heating. Natural gas is slightly more preferred than electric for cooking, but electric is slightly preferred for clothes drying.

When preference is broken down by the homes current energy source the data shows a greater satisfaction with natural gas. Within each category, those currently using natural gas largely preferred to stay with natural gas. Among electric users, the preference to stay with electric was only significant for clothes drying.

When asked what energy source you would recommend to a family member, natural gas was chosen 67% compared to 27% for electric and 5% other with a ME=±9%.

Projections

Projected market share for natural gas shows a significant increase in cooking. There is suggested growth for households wanting all gas appliances over the current market share.

| Current Energy Source | | | |
|-----------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 81% | 8% |
| | Electric | 18% | |
| Water Heating | Natural Gas | 75% | 9% |
| | Electric | 24% | |
| Cooking | Natural Gas | 36% | 9% |
| | Electric | 62% | |
| Clothes Drying | Natural Gas | 22% | 9% |
| | Electric | 77% | |
| Fireplace | Natural Gas | 44% | 11% |
| | Electric | 9% | |
| | Wood | 45% | |

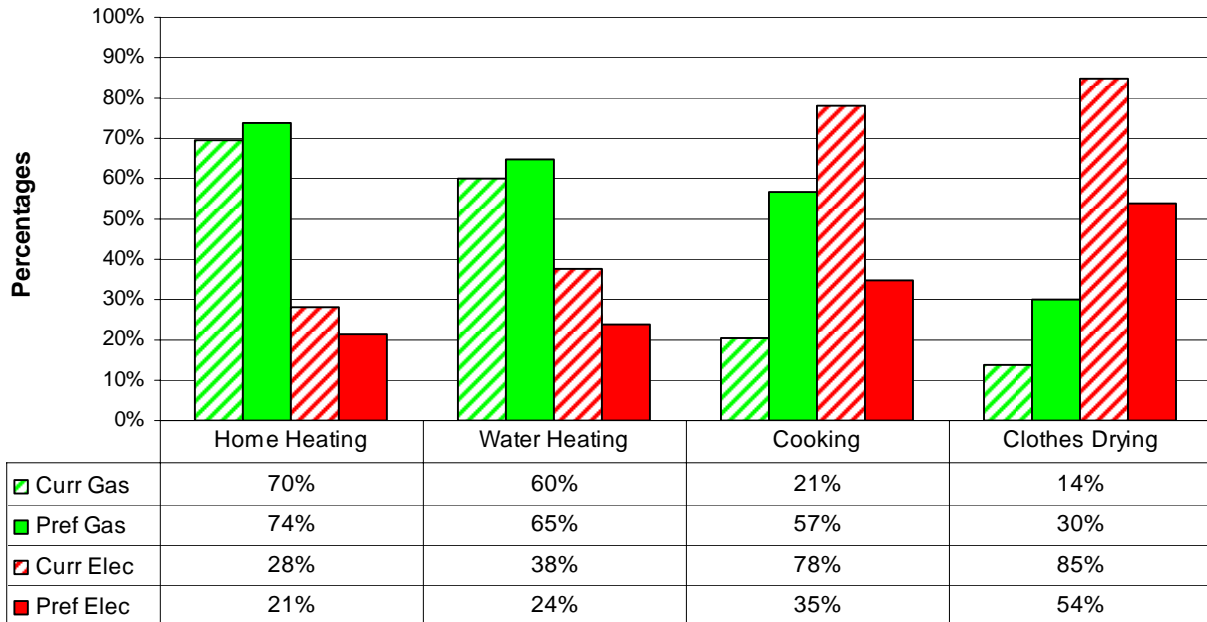
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 67% | 8% |
| | Electric | 25% | |
| Water Heating | Natural Gas | 63% | 9% |
| | Electric | 27% | |
| Cooking | Natural Gas | 58% | 9% |
| | Electric | 34% | |
| Clothes Drying | Natural Gas | 31% | 9% |
| | Electric | 56% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|----------|-----|
| Appliance | Current Source | Estimate | ±ME |
| Home Heating | Natural Gas | 75% | 10% |
| | Electric | 60% | |
| Water Heating | Natural Gas | 75% | 10% |
| | Electric | 62% | |
| Cooking | Natural Gas | 91% | 15% |
| | Electric | 50% | |
| Clothes Drying | Natural Gas | 81% | 20% |
| | Electric | 69% | |

| Variable | Status | Estimate | ±ME |
|----------------|-----------|----------|-----|
| At least 1 Gas | Current | 80% | 8% |
| | Preferred | 78% | |
| All Gas | Current | 12% | 8% |
| | Preferred | 26% | |
| All Electric | Current | 18% | 8% |
| | Preferred | 19% | |

1. Market: Indianapolis, IN

Indianapolis Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Indianapolis MSA surveyed indicate the current total market absorption for natural gas home heating is 70% and electric home heating is 28%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 4 points to the current market share and reaching 74%. On the other hand, electric heated home preference declined 7 points from the current market share to 21%. While these current versus preferred heating differences are within this study's margin of error range they suggest they that natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant increase in customer preferences for gas cooking and gas clothes drying.

When parsing the database by the survey respondents' current heating energy source, we found 89% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 10.7% of the natural gas heating homeowners indicated they would prefer electric heating – the remaining customers cited “Doesn't matter.”

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 50% - half of the current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 31.8% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 63% indicated they would recommend natural gas while just 30% indicated they would recommend electric heating. This represents more than a 2 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the Indianapolis MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home 250% more often than an electric heated home.
- 2) More homeowners preferred natural gas heated homes than purchased natural gas homes.
- 3) Only half of the homeowners who purchased an electric heated home prefer electric heat.
- 4) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners.
- 5) The greatest opportunity for natural gas expansion appears to be in clothes drying and cooking where natural gas is preferred 2X+ more than current usage.
- 6) Customer comments are positively skewed in support of natural gas as an energy source for all appliances and are more emoting (“feel’s warmer,” “like,” “comfortable,” etc.).
- 7) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (63% versus 30%).

Market: Indianapolis MSA – Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for home heating with a slight majority for water heating. Electric is currently the predominant energy source for cooking and clothes drying. It is estimated that 71% of homes in Indianapolis have a fireplace with a ME=±11%. Natural gas and wood serve as the primary energy sources for those homes’ fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating and water heating.

When preference is broken down by the homes current energy source the data shows a much stronger satisfaction with natural gas. Within each category, those currently using natural gas overwhelmingly preferred to stay with natural gas. Among electric users, the preference to stay with electric was only significant with clothes drying.

When asked what energy source you would recommend to a family member, natural gas was chosen 63% compared to 30% for electric and 6% other with a ME=±12%.

Projections

Projected market share for natural gas shows a significant increase in cooking (52% versus the current 21%) with some suggestions that there are also potential gains in clothes drying (27% versus the current 14%) , too.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 70% | 11% |
| | Electric | 28% | |
| Water Heating | Natural Gas | 60% | 11% |
| | Electric | 38% | |
| Cooking | Natural Gas | 21% | 11% |
| | Electric | 78% | |
| Clothes Drying | Natural Gas | 14% | 11% |
| | Electric | 85% | |
| Fireplace | Natural Gas | 41% | 13% |
| | Electric | 16% | |
| | Wood | 40% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 74% | 11% |
| | Electric | 21% | |
| Water Heating | Natural Gas | 65% | 11% |
| | Electric | 24% | |
| Cooking | Natural Gas | 57% | 11% |
| | Electric | 35% | |
| Clothes Drying | Natural Gas | 30% | 11% |
| | Electric | 54% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 89% | 13% |
| | Electric | 50% | |
| Water Heating | Natural Gas | 90% | 14% |
| | Electric | 57% | |
| Cooking | Natural Gas | 94% | 24% |
| | Electric | 44% | |
| Clothes Drying | Natural Gas | 91% | 30% |
| | Electric | 64% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 72% | 13% |
| Water Heating | 61% | 13% |
| Cooking | 52% | 11% |
| Clothes Drying | 27% | 13% |

Indianapolis, IN - Respondent's Unedited Comments - Reasons for Preference.

Electric

Always had electric; one bill.

One bill

Because of cost, if there was not such a cost difference I would want gas, because it is higher quality.

Lower cost, one bill for heat and electric

Cheap

Cost, availability, efficiency

Do not care as long as it heats.

Electric is cheaper and safer than natural gas, but I prefer cooking on a gas-burning stove.

Faster cooking and water recover times.

Gas heat is so much quicker and warmer!

I believe natural gas is more efficient. Easier to use when cooking and keeps the house warmer.

I like the easy, low maintenance aspects of natural gas delivery, also cost vs. propane. Gas fixed heat is comfortable.

I prefer geothermal electric heat pumps for their efficiency; electricity over gas for safety, though gas for the stovetop as cooking preference.

Natural gas heats the house better

Over the last 35-years the homes I have lived in have been all electric.

Prefer clean, quiet electric heat

Price, reclaim faster for water heater.

Safety

Natural Gas

A clothes dryer would be difficult to hook up to gas lines.

Came with house.

Cheaper

Cheaper monthly expense

Cheaper, better

Cheaper, warmer, just better heat source.

Clean and safe

Clean, low cost

Dependable - cheap

Economy and dependability.

Electric is cheaper

Energy sources install when unit build.

For cooking can gauge temp better with gas, and dishes cook and brown better.

Gas is cheaper right now. I cook better with electric, more even heat. Clothes dryer, it goes with washer.

Gas is more dependable and cheaper. Why waste gas to generate electricity. Only use electric where have to!

Gas is more efficient for household appliances.

Gas is too high.

Gas pilot lights make me nervous. I like the new ignition systems.

Heating with gas feels warmer. Water heater heats up faster with gas (would have preferred on demand). No mess with gas fireplace.

Hotter, faster

I am accustomed to these services and satisfied with them.

I feel gas energy source is cheaper and for furnace feels warmer.

I have cooked on gas all my life.

I have heard it is better for all the listed applications.

I like cooking and gas is easier to control heat.
I prefer Natural Gas because I feel it is more efficient. Although expensive from time to time, it seems to last a little longer (hot water)!
Just bought the house - it is what it is . . .
Mainly because when its on its on and when its off its off. Heat for home is warmer!
Natural gas is more efficient then electric.
Natural gas is more environmentally friendly; gas stove is much better for cooking.
Natural gas is usually cheaper than electric. It seems to heat faster as well.
Natural gas seems to be cheaper energy to use than electric for home heating, heated water, and cooking.
Past experience has been with electric other than home heating. Find heating home less expensive with gas.
Safety and comfort
Seems more efficient compared to electric.
The "delivery charge" on gas bill is close to 50% of bill - that is ridiculous!
They work well
Warmer heat, quick recovery on heating water.

Indianapolis, IN - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

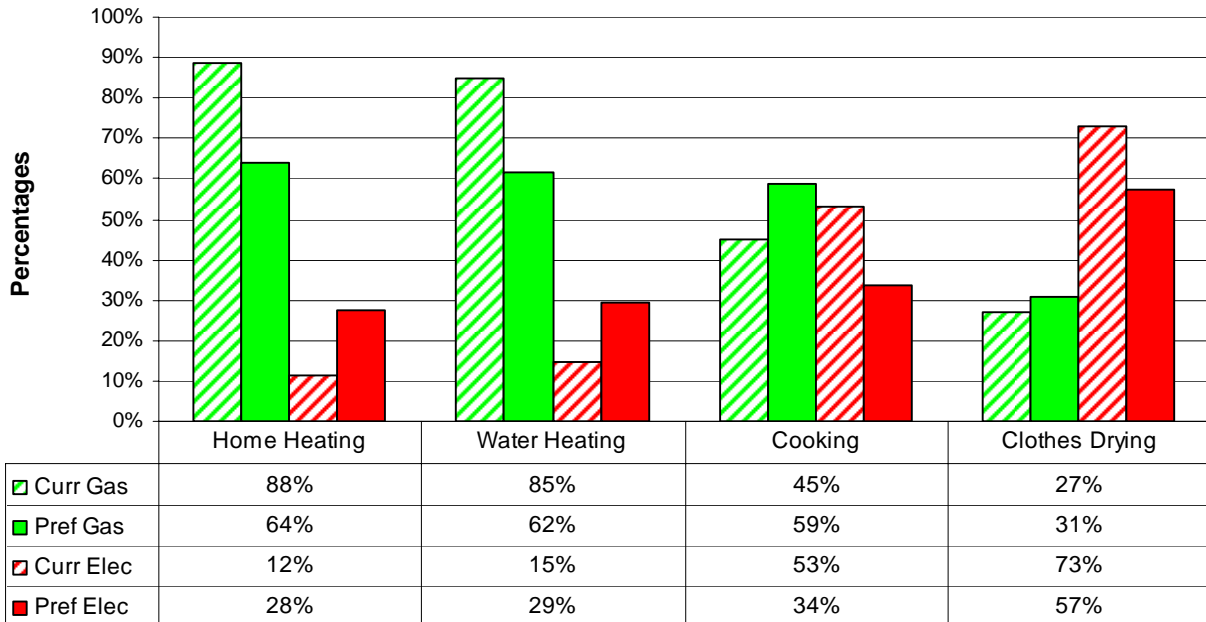
Electric heat does not warm the house as effectively as gas. Gas heat doesn't feel drafty like electric does.
Electric heat doesn't feel like its heating at all.
Electric stove is slow and not even - I prefer electric water heater because too expensive.
Expensive
No choice its an all electric house.
Price efficiency

Natural Gas

Concern about pollution caused by generation of electricity.
Cost of gas is high and fluctuates too much.
Costs are higher than I would like
Dislike electric stove because it is harder to control heat precisely.
Gas is far too expensive
Gas is too high
Have not lived here very long - no strong opinions.
Hooking up appliances to natural gas can be difficult and safety precautions can be horrific.
I dislike an electric stove top.
I feel no utilities company should be able to estimate your usage and charge what they want. IPL does work with you, but don't like being proven wrong.
I prefer gas heat and cooking if given choice. Warmer than electric and easier to control cooking.
I would like it to be all electric for above reason.
I would love a tankless water heater. Sometimes I worry about the safety of natural gas (leaks, explosions).
Just the things mentioned above.
My current fire place is gas. I would prefer a wood burning insert to be able to use it to heat.
Price of electricity is high.
The cost of both keeps going up and up.
Too expensive to operate major electric appliances.
What the house had when I moved in, I had no choice.

2. Market: St. Louis, MO

St. Louis Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the St. Louis MSA surveyed indicate the current total market absorption for natural gas home heating was at the ESC study's highest level, 88.4% and electric home heating was just 14.9%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source at 63.8%. Electric heated home preference rose to 27.5%. It should be noted that the St. Louis MSA includes a portion of Illinois and Missouri - two states with significantly different incentives for gas versus electric use. The participating study member suspects that the Illinois (outside the study members service area) treatment and considerations for electric homes may have influenced these markets study findings.

When parsing this markets survey respondents' current heating energy source, we found 64% of the current natural gas owners continue to prefer natural gas heating. We call this the natural gas heating retention rate. St. Louis was one of only three markets to have a negative gas retention rate, however, it should be noted that all three negative retention markets also had the highest current natural gas heating market share. Of those non-natural gas retention customers, 21% percent indicated they would prefer electric heating – the remaining customers cited “Doesn't matter”.

On the other hand, the electric heating retention exercise shows an improved result. Electric heating homeowner retention increased from the current rate of electric heating of 12% to a preferred electric heating of 27.5%.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 66.7% indicated they would recommend natural gas while just 24.6% indicated they would recommend electric heating. This represents more than a 2.5 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the St. Louis MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home 600% more often than an electric heated home.
- 2) St. Louis MSA respondents are much more willing to refer natural gas to family and friends than electric (70% versus 26%).
- 3) The greatest opportunity for natural gas expansion appears to be in cooking where natural gas cooking is projected at 58%, but is currently at 45%.

St. Louis, MO - Respondent's Unedited Comments - Reasons for Preference.

Electric

All one bill/convenience, seems to be cheaper for us since we have a small home.

Easy to pay bills.

Convenience, safer.

Electric is easy to shut off 100% when you are not home. Natural gas "usually" is more economical.

I feel electric is a little safer.

Natural Gas

Always had same services since childhood.

Came with house.

Can still use when power goes out.

Cleaner, cheaper

Comes with the home.

Cooking is easier to regulate with a gas flame. Can always tell if burner is on or off.

Cost

Cost

Cost is lower for natural gas than the others.

Easier and all appliances on one source.

Efficiencies of natural gas; used to cooking on a gas stove top.

Efficiency

Electric is cleaner and safer.

Electric is convenient, but cooking on a gas stove is better and faster.

Electric is reasonable in prices and for the electric/gas stove I am not able to use chemicals to clean it.

Electric seems safer.

Even heat

For heat (water heater, home-heat, cooking, etc.) natural gas is "faster"; for the dryer, not every place you move has gas available.

Gas has better temperature control for cooking. I can use electric dryer to help heat my basement while doing laundry.

Gas is better for cooking

Gas is cheaper

Gas is easier to cook with - I feel it is less expensive than electric.

Gas is easier with cooking

Gas is more efficient and thus cheaper.

Gas is more expensive

Gas stove top, electric oven - cooking preferences

Gas stoves are easier to regulate while cooking. You can see the flame. Electric burners stay hot and leave time for injury.

Gas stoves seem to heat up quicker. Electric dryers seem more common.

Heat continues after you turn off stove. Gas flame can be controlled better. Used to using gas and like it, but its too high cost.

Heat seems to be better with natural gas, heats up faster. Never had gas dryer not sure how that would do.

I believe it is less expensive and more environmentally friendly. I like gas stove ovens, not electric.

I love natural gas! It is cheaper and more energy efficient.

I think gas is best for heating and hot water as it works quickly and heats well. I have had both and like gas better.

Electric feels safer, cleaner, and electricity is also cheaper.

Gas is a comfortable, affordable energy source, cooking - no wait, burner on heat, off no heat.

Gas is the cheapest for the size of the house.

Least expensive and more efficient

Less to worry about and electric is more economical.

Like electric stove top, but gas for all else because of low cost and energy efficiency.
Lower cost, eco-efficient
More efficient
More efficient and cooks better.
Not comfortable with gas or propane
Our home area is serviced by an electric co-op, and I once lived in a home with all electric.
Seems more efficient.
They offer the most BTUs/money. Wife likes to cook on electric.
Would like to have one bill. Gas scares me.

St. Louis, MO - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

All electric can be more expensive if not managed well.
Crazy expensive and I have no other source to choose from.
They are older and not energy efficient

Natural Gas

Concerned about danger of aging gas lines.
Cost is an issue
Cost of both is getting higher so neither one is a better value any longer.
Costly
Electric - too many aerial lines - electric loses due to storms.
Electric dryer is harder to install when natural gas is already installed.
Electric stove - too long to arrive at desired heat and too long to cool down.
Electric stove is an energy waster.
Electricity goes out too much here for electric energy sources.
Even if you don't use it, you get a bill of \$25 just for keeping it. So it is not cheap.
Expensive!
Gas is not cheap!
Gas prices seem to be rising quickly.
I dislike my electric stove.
I prefer all electric, not some gas, some electric - one energy source, one payment to make monthly.
My furnace is noisy.
Not happy with Laclede Gas Service.
Only scare for gas is not being able to smell and there being a leak. Electric can be expensive.
Price
Prices are too high. Everything is going up in price.
Second story has separate electric heating system and it costs more than the downstairs gas furnace to operate.
Stove
The dangers of fuel oil, propane, gas
The price of natural is expensive compared to electric.
Would prefer gas on stove.

Market: St. Louis MSA – Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for home heating and water heating. Electric is currently the predominant energy source for clothes drying. It is estimated that 57% of St. Louis’ homes have a fireplace with a ME=±12%. Natural gas and wood serve as the primary energy source for those homes’ fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating and water heating. Given the 12% margins of error, neither energy source shows a significant preference for cooking or clothes drying.

When preference is broken down by the homes current energy source you can see that those with gas predominantly preferred to stay with gas. This preference was significant for all four appliances. Among electric users, the preference to stay with electric was significant only for clothes drying.

When asked what energy source you would recommend to a family member, natural gas was chosen 70% compared to 26% for electric and 5% other with a ME=±12%.

Projections

The projected market share for natural gas shows evidence of a potential loss for home heating and water heating which may be due to the higher initial markets share and/or the inclusion of Illinois households in the St. Louis MSA. However, gas cooking shows a strong possibility for expansion.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 88% | 12% |
| | Electric | 12% | |
| Water Heating | Natural Gas | 85% | 12% |
| | Electric | 15% | |
| Cooking | Natural Gas | 45% | 12% |
| | Electric | 53% | |
| Clothes Drying | Natural Gas | 27% | 12% |
| | Electric | 73% | |
| Fireplace | Natural Gas | 46% | 16% |
| | Electric | 5% | |
| | Wood | 49% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 64% | 12% |
| | Electric | 28% | |
| Water Heating | Natural Gas | 62% | 12% |
| | Electric | 29% | |
| Cooking | Natural Gas | 59% | 12% |
| | Electric | 34% | |
| Clothes Drying | Natural Gas | 31% | 12% |
| | Electric | 57% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 64% | 13% |
| | Electric | 75% | |
| Water Heating | Natural Gas | 68% | 13% |
| | Electric | 70% | |
| Cooking | Natural Gas | 90% | 18% |
| | Electric | 54% | |
| Clothes Drying | Natural Gas | 78% | 23% |
| | Electric | 73% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 64% | 13% |
| Water Heating | 62% | 13% |
| Cooking | 58% | 13% |
| Clothes Drying | 31% | 14% |

C. Region: Northeast Data/Tables

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any of the appliances. Electric is currently the predominant energy source for cooking and clothes drying. It is estimated that 57% of homes have a fireplace with a ME=±12%. Natural gas and wood serve as the primary energy sources for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating. Neither energy source shows a significant preference for water heating, cooking or clothes drying.

When preference is broken down by the homes current energy source the data shows a greater satisfaction with natural gas. For natural gas users, only home heating preference is significant despite the fact that both water heating and cooking showed estimates of at least a majority among its customers. Among electric users, the estimated preference to stay with electric was not significant for any category.

When asked what energy source you would recommend to a family member, natural gas was chosen 63% compared to 22% for electric and 16% other with a ME=±11%.

Projections

Projected market share for natural gas was slightly above 50% for home heating, water heating and cooking, but the preference was not significant. There is significant suggested growth in preference for at least 1 gas appliance and all gas appliances compared to the current status.

1. Insufficient data to make valid estimate

| Current Energy Source | | | |
|-----------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 49% | 12% |
| | Electric | 40% | |
| Water Heating | Natural Gas | 40% | 11% |
| | Electric | 56% | |
| Cooking | Natural Gas | 16% | 11% |
| | Electric | 78% | |
| Clothes Drying | Natural Gas | 3% | 11% |
| | Electric | 96% | |
| Fireplace | Natural Gas | 40% | 15% |
| | Electric | 9% | |
| | Wood | 44% | |

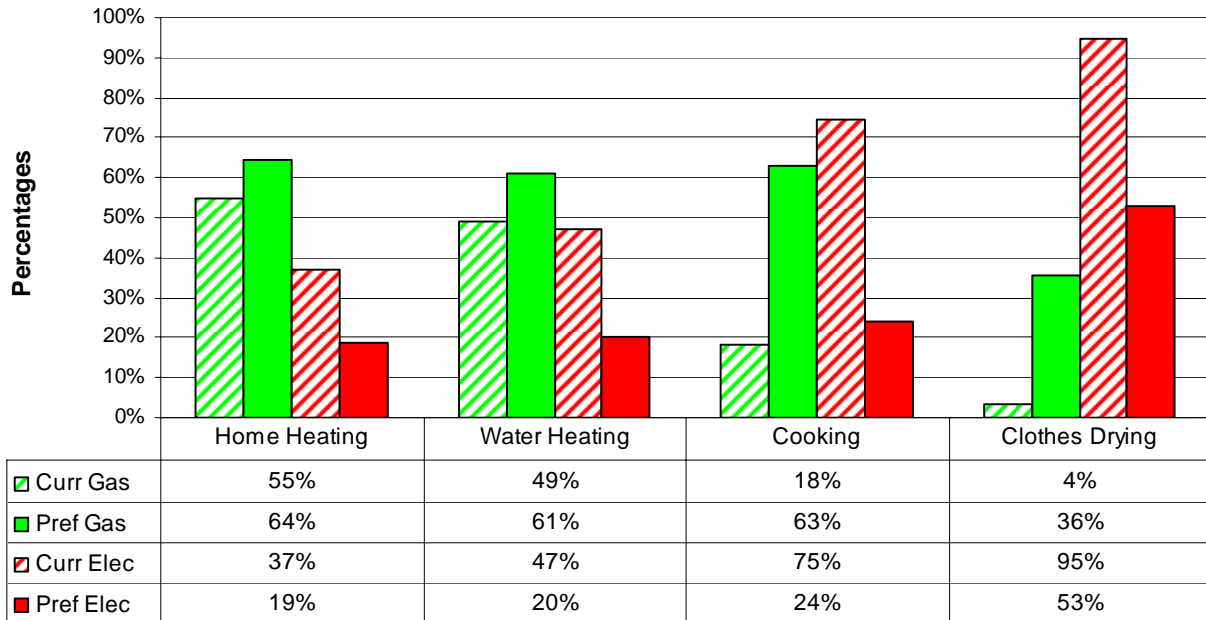
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 61% | 11% |
| | Electric | 22% | |
| Water Heating | Natural Gas | 57% | 11% |
| | Electric | 25% | |
| Cooking | Natural Gas | 58% | 11% |
| | Electric | 29% | |
| Clothes Drying | Natural Gas | 36% | 11% |
| | Electric | 51% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|----------|-----|
| Appliance | Current Source | Estimate | ±ME |
| Home Heating | Natural Gas | 77% | 17% |
| | Electric | 43% | |
| Water Heating | Natural Gas | 63% | 20% |
| | Electric | 35% | |
| Cooking | Natural Gas | 55% | 32% |
| | Electric | 31% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 54% | |

| Variable | Status | Estimate | ±ME |
|----------------|-----------|----------|-----|
| At least 1 Gas | Current | 53% | 11% |
| | Preferred | 71% | |
| All Gas | Current | 1% | 11% |
| | Preferred | 28% | |
| All Electric | Current | 30% | 11% |
| | Preferred | 15% | |

1. Market: Dover, DE

Dover Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Dover, DE MSA surveyed indicate the current total market absorption for natural gas home heating is 51% and electric home heating is 35%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 13 points to the current market share and reaching 64%. On the other hand, electric heated home preference declined 16 points from the current market share to 19%. While the current gas heating versus preferred gas heating difference is borderline with this study's margin of error range the electric decline is statistically significant. This combination suggests that natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant increase in customer preferences for gas cooking and gas clothes drying.

When parsing the database by the survey respondents' current heating energy source, we found 77.8% of the current natural gas owners would continue to prefer natural gas heating. We call this the natural gas heating retention rate. Only 7.4% of the natural gas heating homeowners indicated they would prefer electric heating – the remainder indicated “Doesn't matter.”

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 32% - just a third of the current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 47.4% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 69% indicated they would recommend natural gas while just 17% indicated they would recommend electric heating. This represents more than a 3 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the Dover MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home more often than an electric heated home.
- 2) Homeowners preferred natural gas heated homes versus electric heated homes more than 3 to 1.
- 3) Only one third of the homeowners who have a current electric heated home prefer electric heat.
- 4) Homeowners who currently have a natural gas heated home had significantly higher preference for natural gas heat compared to electric heat homeowners (78% versus 32%.)
- 5) The greatest opportunity for natural gas expansion appears to be in clothes drying and cooking where natural gas is preferred 3X more than current usage.
- 6) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (69% versus 17%).
- 7) The Dover MSA study experienced higher than normal margins of error due to the limited market size (relative to the other study areas). Two markets split this study (Dover & Salisbury) causing lower statistical significance – this lower volume modestly limited some findings and preferences.

Dover, DE - Respondent's Unedited Comments - Reasons for Preference.

Electric

Can control the cost more / only one bill

Cheaper over all

Cleaner, more efficient

Convenience

Cooking is more evenly regulated.

Cost would determine my choice.

Electric heat does not make nose stuffy; water heat heats hotter with gas; cooking with gas is more even; like electric dryer.

Electric heat pump is not as warm as gas heat.

Electric is cheapest (because we belong to a co-op which's the best).

Fear of gas exploding

Gas would require less dependency on electric energy.

Had natural gas until this house. It is more efficient, less expensive, more reliable.

I had a friend that was blown up when the man came to deliver gas when he lit a cigarette and boom!

Less expensive, cleaner, not as dry a heat.

More efficient; lower cost and easier to operate.

Natural gas is cheaper, however, I would prefer wind or solar over any other.

Natural gas is cleaner

Non-combustible

Saving money, cleaner environment, heat when electric goes out.

We have always had natural gas until we moved 2 years ago. I believe it is more efficient.

Natural Gas

Cheaper

Cheaper, more efficient, cleaner energy.

Cost

Cost

Cost effective

Costs

Ease of use

Fear of natural gas leak, carbon monoxide poisoning, or explosion.

Gas is better price

Gas is cleaner and more efficient

Gas is less expensive.

Heating is less expensive. Stove cooks more evenly. Do not like the idea of flame around my clothes.

I have had these and like them better.

I like my current heater and prefer to cook with gas.

I prefer solar or wind over any of these choices.

I think gas is more economical than electric. I can better regulate my cooking temp with gas.

It was there when I bought the house

Less costly

Natural gas - clean fuel, less costly (vs. all others), water heater - quick recovery.

Natural gas heats up faster and is hotter. Especially in the stove - it cooks better than electric.

Natural gas is cheaper for heating your home. I prefer cooking with gas.

Natural gas is more economical for heating the home and water. I believe it is safer to have on electric stove when there are children in the house.

Prefer gas for cooking because more responsive.

Safety and it is what I am used to.

We feel gas is more efficient and better for the environment.

Dover, DE - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Cost

Cost

Do not like electric stove - cool down and heat up time delay.

Dry heat : keeps you stuffy all the time.

Fear of natural gas leak, carbon monoxide poisoning, or explosion.

Heat pump

I think the electric - it takes longer for a load of clothes to dry in dryer.

I wish my wood stove was a pellet stove because we are getting too old to haul wood.

Power outages leave you (if total electric) at the mercy of energy companies.

Too high

Use pellet stove and 2 Eden Pure heaters without using baseboard heat - electric bill now 150 not 280 a month.

We would rather have a gas stove for "real time" control while cooking.

Natural Gas

Cost

Do not enjoy electric stove.

Electric dryer does not dry efficiently.

Electric dryers - I think gas is a better choice.

Electric heater - not as hot and takes more energy!

Natural gas is expensive in the winter.

Old and less efficient

Pollution, non-renewable.

Quite expensive

The electric water heater uses too much energy. Rather have an on-demand gas water heater.

When I used my heat my gas bill tripled.

Would be nice to have solar too.

Market: Dover MSA, Data/Tables

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any of the appliances. Electric is currently the predominant energy source for cooking and clothes drying. It is estimated that 55% of Dover homes have a fireplace with a ME=±13%. Natural gas and wood serve as the primary energy sources for those homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas, for home heating, water heating and cooking. Neither energy source shows a significant preference for clothes drying.

When preference is broken down by the homes current energy source the data shows a much stronger preference/satisfaction with natural gas. For home heating and water heating, natural gas showed a significant preference among its customers. Among electric users, the preference to stay with electric was not significant for any appliance.

When asked what energy source you would recommend to a family member, natural gas was chosen 69% compared to 17% for electric and 13% other with a ME=±13%.

Projections

Projected market share for natural gas shows a significant expansion opportunity in cooking while the other appliances lack enough data to make significant claims.

1. Insufficient data to make valid estimate

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 55% | 14% |
| | Electric | 37% | |
| Water Heating | Natural Gas | 49% | 13% |
| | Electric | 47% | |
| Cooking | Natural Gas | 18% | 13% |
| | Electric | 75% | |
| Clothes Drying | Natural Gas | 4% | 13% |
| | Electric | 95% | |
| Fireplace | Natural Gas | 43% | 18% |
| | Electric | 10% | |
| | Wood | 47% | |

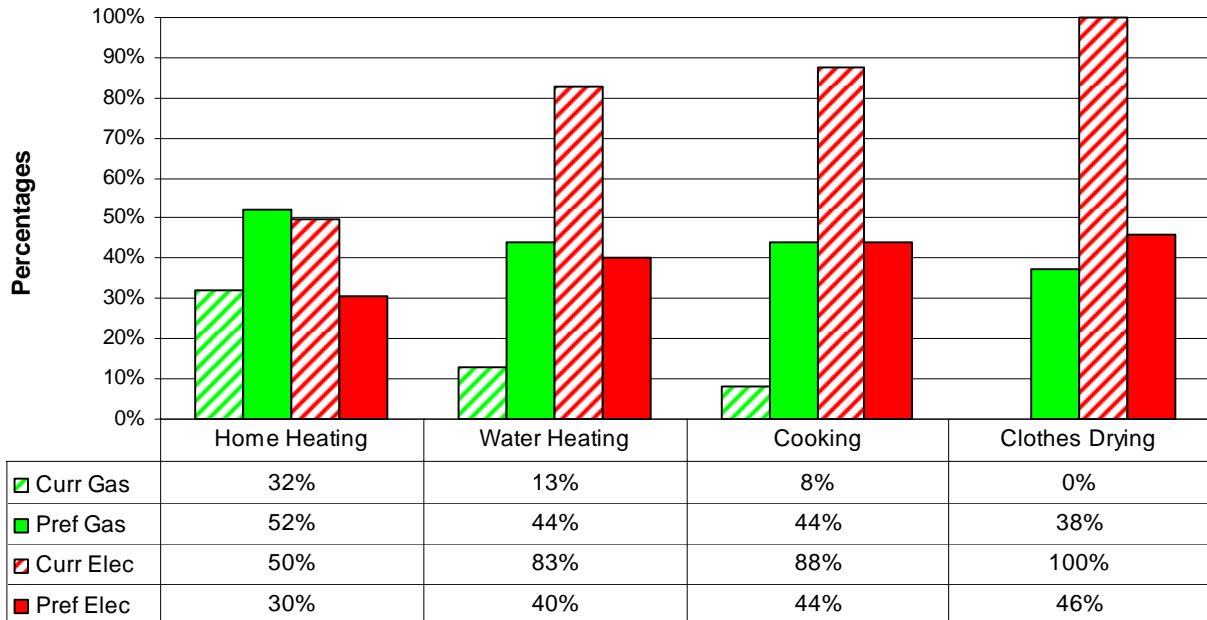
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 64% | 13% |
| | Electric | 19% | |
| Water Heating | Natural Gas | 61% | 13% |
| | Electric | 20% | |
| Cooking | Natural Gas | 63% | 13% |
| | Electric | 24% | |
| Clothes Drying | Natural Gas | 36% | 13% |
| | Electric | 53% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 78% | 19% |
| | Electric | 32% | |
| Water Heating | Natural Gas | 69% | 19% |
| | Electric | 27% | |
| Cooking | Natural Gas | 56% | 32% |
| | Electric | 27% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 56% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 60% | 14% |
| Water Heating | 59% | 13% |
| Cooking | 57% | 13% |
| Clothes Drying ₁ | NA | NA |

2. Market: Salisbury, MD

Salisbury Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Salisbury MSA surveyed indicate the current total market absorption for natural gas home heating is 28% and electric home heating is 44%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 24 points to the current market share and reaching 52%. On the other hand, electric heated home preference declined 14 points from the current market share to 30%. While these current versus preferred heating differences are within this study's margin of error range they suggest they that natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant increase in customer preferences for gas cooking and gas clothes drying and significant declines in electric water heating, electric cooking and electric clothes drying.

When parsing the database by the survey respondents' current heating energy source, we found 71.4% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. None of gas heating respondents indicated they would prefer electric heating – the remaining customers cited “Doesn't matter.”

The electric heating retention exercise was similar. Electric heating respondent retention is 67% - nearly one third of the current electric heating respondents would prefer a different energy source.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 43% indicated they would recommend natural gas while 35% indicated they would recommend electric heating. This constitutes more than a 30% advantage of willingness to refer natural gas heating over electric heating to family members or friends.

The Salisbury MSA market transaction count was much lower than other markets surveyed in this study. As such, Salisbury MSA's margins of error are very high (relative to other markets), thus not allowing us to identify market projects and natural gas expansion with certainty.

In the Salisbury MSAs survey –

- 1) More respondents preferred natural gas heated homes than purchased natural gas homes.
- 2) Fewer respondents prefer electric heated homes than those who purchased electric heated homes.
- 3) The Salisbury MSA study experienced higher than normal margins of error due to the limited market size (relative to the other study areas). Two markets split this study (Salisbury & Dover) causing lower statistical significance – this lower volume ultimately limited some findings and preferences.

Salisbury, MD - Respondent's Unedited Comments - Reasons for Preference.

Electric

Cleaner

Cleaner, more economical

Do not trust gas because of gas leaks and explosion.

Efficiency

Electric appliances are easier to maintain and there are no CO safety concerns.

Gas is less costly and better for cooking

It is easier for me and I do not like gas or oil - they are too dirty.

It is easier to cook with gas.

It is familiar and one easy bill

Natural gas dries clothes and cooks easier, with little warm up time.

Natural gas is economical and efficient.

No exhaust vent required for water heater - least expensive preferred.

Oil and gas are more efficient

Price; convenience

Natural Gas

Easier to adjust heat on a gas stove; flame shows heat.

Even with gas heating you still need electric.

Fear of gas explosion/leak

Gas is clean - do not have to worry re: supply gas dryers are expensive and hard to locate.

Heating is fast and cheaper. Prefer electric cook top.

I have had opportunity to use both sources and have found natural gas to be more efficient across the board, plus warmer for heat.

It is cheaper, cleaner, more efficient and is sustainable.

Natural gas is more cost effective; also I believe gas cooking gives more heat control.

Relatively low costs, USA product, burns cleanly, lower CO2 footprint than electricity. Electric stove - boils water faster, glass top easy to clean.

Truthfully, it really doesn't matter one way or the other.

Salisbury, MD - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Costs too much

Electric dryer

Electric is very expensive.

Heat pump - drafty.

Heat pump does not work as good in low temperatures.

Heat pump struggles on really cold days

None, other than it all costs money.

Stove not as controllable

Natural Gas

Cost of propane/always needing electric to heat.

Electric water heater costs more to run and thermostat control is more difficult.

Electricity and gas: 2 minimum service fees each month.

Stove burner stays hot after turned off.

Very high fees just to deliver the electric power charges before the actual cost of the electricity.

Wish water and stove were gas.

Market: Salisbury MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any of the appliances. Electric is currently the predominant energy source for cooking and clothes drying. It is estimated that 64% of homes have a fireplace with a ME= \pm 20%. Natural gas and wood serve as the primary energy sources for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is not significant with any of the appliances for either natural gas or electric.

When preference is broken down by the homes current energy source there is no evidence of a preference for any of the appliances either.

When asked what energy source you would recommend to a family member, natural gas was chosen 43% compared to 35% for electric and 22% other with a ME= \pm 20%.

Projections

Projected market share for natural gas is right in line with the current market share. The other appliances lack enough data to make any valid estimates.

| Current Energy Source | | | |
|-----------------------|--------------------------|---------|----------|
| Appliance | Energy Source | Percent | \pm ME |
| Home Heating | Natural Gas | 32% | 21% |
| | Electric | 50% | |
| Water Heating | Natural Gas | 13% | 20% |
| | Electric | 83% | |
| Cooking | Natural Gas | 8% | 20% |
| | Electric | 88% | |
| Clothes Drying | Natural Gas ₂ | 0% | 19% |
| | Electric | 100% | |
| Fireplace | Natural Gas | 31% | 24% |
| | Electric | 6% | |
| | Wood | 38% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|----------|
| Appliance | Energy Source | Percent | \pm ME |
| Home Heating | Natural Gas | 52% | 20% |
| | Electric | 30% | |
| Water Heating | Natural Gas | 44% | 19% |
| | Electric | 40% | |
| Cooking | Natural Gas | 44% | 19% |
| | Electric | 44% | |
| Clothes Drying | Natural Gas | 38% | 20% |
| | Electric | 46% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|---------|----------|
| Appliance | Current Source | Percent | \pm ME |
| Home Heating | Natural Gas | 71% | 37% |
| | Electric | 67% | |
| Water Heating | Natural Gas ₁ | NA | NA |
| | Electric | 47% | |
| Cooking | Natural Gas ₁ | NA | NA |
| | Electric | 43% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 48% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|----------|
| Appliance | Percent | \pm ME |
| Home Heating | 33% | 23% |
| Water Heating ₁ | NA | NA |
| Cooking ₁ | NA | NA |
| Clothes Drying ₁ | NA | NA |

1. Insufficient data to make valid estimate
2. No Natural Gas users were in the sample

D. Region: South

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any of the appliances compared to electric. Electric is currently the predominant energy source for clothes drying only. It is estimated that 40% of the South's homes have a fireplace with a ME=±10%. Natural gas and wood serve as the primary energy sources for those homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating, water heating and cooking. Neither energy source shows a significant preference for clothes drying.

When preference is broken down by the homes current energy source the data shows a greater satisfaction with natural gas. For home heating, water heating and cooking, those currently using natural gas significantly preferred to stay with natural gas. Among electric users, the preference to stay with electric was not significant for any appliance.

When asked what energy source you would recommend to a family member, natural gas was chosen 73% compared to 22% for electric and 5% other with a ME=±10%.

Projections

Projected market share calculations for natural gas indicate expansion opportunities in home heating, water heating and cooking. There are also significant gains in those preferring at least 1 gas appliance and all 4 gas appliances compared to the current status.

| Current Energy Source | | | |
|-----------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 52% | 10% |
| | Electric | 46% | |
| Water Heating | Natural Gas | 58% | 10% |
| | Electric | 40% | |
| Cooking | Natural Gas | 51% | 10% |
| | Electric | 48% | |
| Clothes Drying | Natural Gas | 14% | 10% |
| | Electric | 86% | |
| Fireplace | Natural Gas | 49% | 13% |
| | Electric | 12% | |
| | Wood | 36% | |

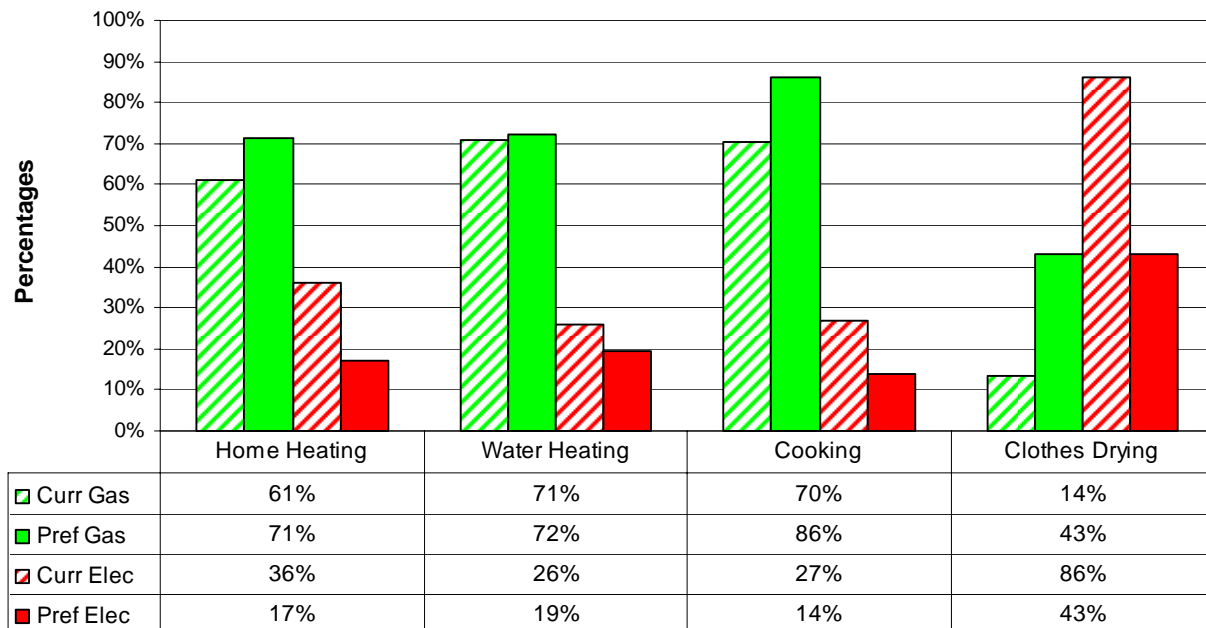
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 68% | 10% |
| | Electric | 23% | |
| Water Heating | Natural Gas | 70% | 10% |
| | Electric | 21% | |
| Cooking | Natural Gas | 79% | 10% |
| | Electric | 15% | |
| Clothes Drying | Natural Gas | 44% | 10% |
| | Electric | 42% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|----------|-----|
| Appliance | Current Source | Estimate | ±ME |
| Home Heating | Natural Gas | 83% | 14% |
| | Electric | 33% | |
| Water Heating | Natural Gas | 85% | 14% |
| | Electric | 34% | |
| Cooking | Natural Gas | 86% | 15% |
| | Electric | 21% | |
| Clothes Drying | Natural Gas | 68% | 28% |
| | Electric | 46% | |

| Variable | Status | Estimate | ±ME |
|----------------|-----------|----------|-----|
| At least 1 Gas | Current | 65% | |
| | Preferred | 85% | |
| All Gas | Current | 11% | 9% |
| | Preferred | 39% | |
| All Electric | Current | 32% | |
| | Preferred | 9% | |

1. Market: Austin, TX

Austin Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Austin MSA surveyed indicate the current total market absorption for natural gas home heating is 60% and electric home heating is 35%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 11 points to the current market share and reaching 71%. On the other hand, electric heated home preference declined 18 points from the current market share to 17%. While these current versus preferred heating differences are within or near this study's margin of error ranges they suggest they that natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant increase in customer preferences for gas clothes drying and the similarity in preference pattern's across the board.

When parsing the database by the survey respondents' current heating energy source, we found 81% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 14.3% of the natural gas heating homeowners indicated they would prefer electric heating – the remaining customers cited 'Doesn't matter.'

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 25% - only 1 out of 4 current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 58.3% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 78% indicated they would recommend natural gas while just 19% indicated they would recommend electric heating. This represents a more than a 4 to 1 differential of willingness to refer natural gas heating over electric heating to family members or friends.

In the Austin MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home more often than an electric heated home.
- 2) More homeowners preferred natural gas heated homes than purchased natural gas homes.
- 3) Only one-fourth of the homeowners who purchased an electric heated home prefer electric heat.
- 4) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners (81% versus 25%.)
- 5) Responses indicate more than a 400% willingness to refer natural gas advantage over electric to family and friends (78% versus 19%).
- 6) Two markets split this study (Austin & El Paso) causing lower statistical significance – this lower volume ultimately limited some findings and preferences.

Austin, TX - Respondent's Unedited Comments - Reasons for Preference.

Electric

A gas stove is so much easier to cook on/control temps more precisely/cooks quicker - better all the way around.
Better control of cooking temperatures and cheaper
Cook better with gas. Electric better with solar power for all else.
Electric is cleaner to use.
I love cooking on a gas stove and home heating with gas seems to be more efficient.
I would rather cook with gas.
Natural gas heats better and faster. It works better for cooking and is economical.
Quicker cooking, less expensive heating.

Natural Gas

Because we are deaf and would not be safe for us.
Better efficiency
Cheaper and cleaner energy
Cheaper and more efficient
Cleaner, Cheaper
Cooking is the only one I really care about. Has to be gas (better control). The rest could be either; I just do not know enough about the pros/cons.
Cost
Diversify energy source and more effective cooking and heating.
Energy efficiency
Gas is cheaper, cleaner and more efficient.
Gas is more efficient in heating and cooking.
Gas seems to heat up faster. Also when cooking with gas, food comes out better, not sure why.
It is a new home, in a new development and I could not be happier.
Less costs and more uniform
More efficient. If electric fails, have a source for basic necessitates.
Natural gas is cheaper
Only preference is stove for natural gas in case electricity goes out.
Price
Price of gas vs. electric.
Safety
Safety
Wife likes electric clothes dryer

Austin, TX - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Cost of electric is high.
Electric cooking is very difficult to regulate.
Energy efficiency
Expensive
Gas stove was not an option. Not sure I would like the heat pump, but it seems to work well and is efficient.
I do not really like cooking on an electric stove; it does not work as well as a gas stove.
Longer to cook, more expensive to heat.
Too expensive
Wish there was solar.

Natural Gas

None - as soon as I have a little extra money - I am dumping my electric dryer.

Electric company has too many plans that are confusing and you must lock in.

Gas leaks scare me.

Hot water in kitchen takes forever to get hot.

Natural gas! Heating waterheater cooking stove can not change to electric because no 220 volt outlet to plug in.

No choice. No renewables. No rebate for solar.

Too expensive

Water is not good

Would like a gas dryer.

Propane is expensive, but is like natural gas.

Market: Austin MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for water heating and cooking. Electric is currently the predominant energy source for clothes drying. It is estimated that 51% of Austin's homes have a fireplace with a ME=±16%. Natural gas and wood serve as the primary energy sources for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating, water heating and cooking. Neither energy source shows a significant preference for clothes drying.

When preference is broken down by the homes current energy source the data shows a much stronger satisfaction with natural gas. For home heating, water heating and cooking, natural gas showed a significant preference among its customers. Among electric users, the preference to stay with electric was not significant for any appliance.

When asked what energy source you would recommend to a family member, natural gas was chosen 78% compared to 19% for electric and 3% other with a ME=±17%.

Projections

Projected market share for natural gas do not show significant changes in any of the appliances.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 61% | 16% |
| | Electric | 36% | |
| Water Heating | Natural Gas | 71% | 17% |
| | Electric | 26% | |
| Cooking | Natural Gas | 70% | 16% |
| | Electric | 27% | |
| Clothes Drying | Natural Gas | 14% | 16% |
| | Electric | 86% | |
| Fireplace | Natural Gas | 42% | 22% |
| | Electric | 11% | |
| | Wood | 42% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 71% | 17% |
| | Electric | 17% | |
| Water Heating | Natural Gas | 72% | 16% |
| | Electric | 19% | |
| Cooking | Natural Gas | 86% | 16% |
| | Electric | 14% | |
| Clothes Drying | Natural Gas | 43% | 16% |
| | Electric | 43% | |

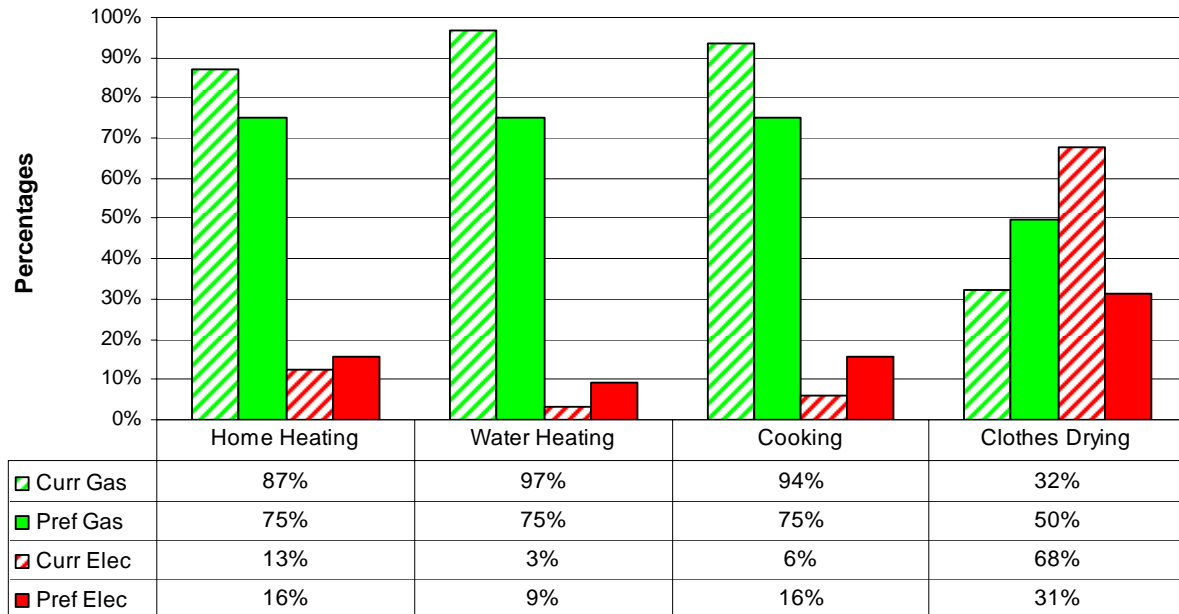
| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 81% | 21% |
| | Electric | 25% | |
| Water Heating | Natural Gas | 83% | 20% |
| | Electric | 33% | |
| Cooking | Natural Gas | 88% | 20% |
| | Electric | 20% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 48% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 71% | 17% |
| Water Heating | 68% | 18% |
| Cooking | 75% | 16% |
| Clothes Drying ₁ | NA | NA |

1. Insufficient data to make valid estimate

2. Market: El Paso, TX

El Paso Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the El Paso MSA surveyed indicate the current total market absorption for natural gas home heating is 84% and electric home heating is 13%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source at 75%. Electric heated home preference was 16%. While differences between customers' current and preferred eating sources were within this study's margin of error range they also suggest a dominate preference for natural gas in heating, water heating and cooking.

When parsing the database by the survey respondents' current heating energy source, we found 81.5% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 11.1% of the natural gas heating homeowners indicated they would prefer electric heating – the remaining customers cited "Doesn't matter."

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 83% indicated they would recommend natural gas while just 13% indicated they would recommend electric heating. This represents more than a 5 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the El Paso MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home 500+% more often than an electric heated home.
- 2) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (63% versus 30%).
- 3) Two markets split this study (El Paso & Austin) causing lower statistical significance – this lower volume ultimately limited some findings and preferences.

El Paso, TX - Respondent's Unedited Comments - Reasons for Preference.

Electric - No comments

Natural Gas

Always had everything electric and I am used to it.

Appliances seem to work better

Because I do not know the difference in prices.

Better options available on the market

Cheaper - better for the environment

Cooking with gas is much faster

Electric appliances do not generate CO2.

Electric is more costly than natural gas.

Faster and less expensive in the winter

For heating, cooking and dryer they are quicker when they are electric.

Gas is less expensive

Have worked in the past, have a good record of efficiency and economy.

It a lot cleaner and you can cook better with natural gas.

It is way cheaper

Just prefer natural gas. For a stove I feel it is the best to use. Electric takes a while to heat up.

Less expensive

Less expensive. No wires needed. Easy to install.

More economical

More economical

More energy efficient

Natural and energy efficient, and economical

Natural gas is cheaper

Natural gas is cheaper. Electricity tends to be more expensive because some electric companies end up using natural gas to run their plants - so customers end up paying for 2 services instead of just one.

Natural gas is less expensive and more reliable.

Prefer gas due to electric cost

El Paso, TX - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Electric is costly

Electric services are more expensive than natural gas.

Natural Gas

I am satisfied the way it is.

Increases in price.

No dislikes at all. Very content with everything.

Non removable

Not enough renewables!

They should run gas lines to dryers also not just electric.

Too many expenses for gas in winter.

Would prefer solar.

Market: El Paso MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is used significantly as the source of energy for home heating, water heating and cooking. Electric is currently the predominant energy source for clothes drying. It is estimated that 58% of El Paso homes have a fireplace with a ME=±18%. Natural gas serves as the primary energy source for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating, water heating and cooking. Neither energy source shows a significant preference for clothes drying.

When preference is broken down by the homes current energy source the data shows a much stronger satisfaction with natural gas. For home heating, water heating and cooking, natural gas showed a significant preference among its customers. Among electric users, the preference to stay with electric was not significant for any appliance.

When asked what energy source you would recommend to a family member, natural gas was chosen 83% compared to 13% for electric and 3% other with a ME=±18%.

Projections

Projected market share for natural gas do not show significant changes in any of the appliances.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 87% | 18% |
| | Electric | 13% | |
| Water Heating | Natural Gas | 97% | 18% |
| | Electric | 3% | |
| Cooking | Natural Gas | 94% | 18% |
| | Electric | 6% | |
| Clothes Drying | Natural Gas | 32% | 18% |
| | Electric | 68% | |
| Fireplace | Natural Gas | 83% | 23% |
| | Electric | 6% | |
| | Wood | 11% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 75% | 17% |
| | Electric | 16% | |
| Water Heating | Natural Gas | 75% | 17% |
| | Electric | 9% | |
| Cooking | Natural Gas | 75% | 17% |
| | Electric | 16% | |
| Clothes Drying | Natural Gas | 50% | 17% |
| | Electric | 31% | |

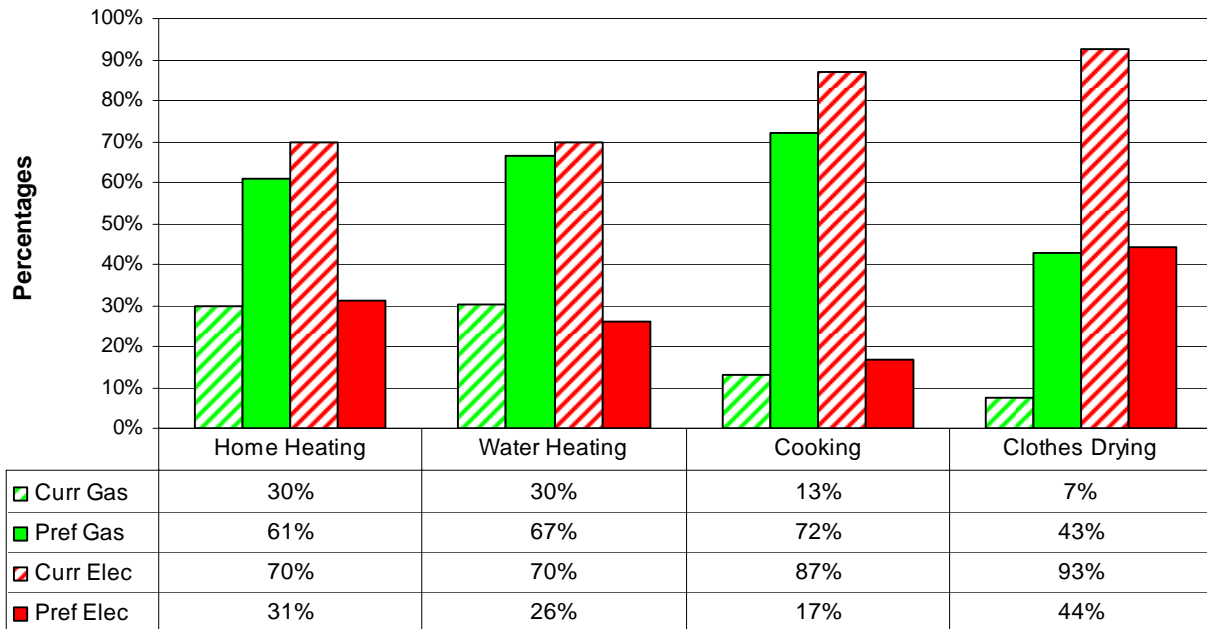
| Preference for Current Energy Source | | | |
|--------------------------------------|-----------------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 81% | 19% |
| | Electric ₁ | NA | |
| Water Heating | Natural Gas | 82% | 18% |
| | Electric ₁ | NA | |
| Cooking | Natural Gas | 79% | 18% |
| | Electric ₁ | NA | |
| Clothes Drying | Natural Gas | 60% | 31% |
| | Electric | 33% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 74% | 16% |
| Water Heating ₁ | NA | NA |
| Cooking ₁ | NA | NA |
| Clothes Drying | 29% | 20% |

1. Insufficient data to make valid estimate

3. Market: San Antonio, TX

San Antonio Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the San Antonio MSA surveyed indicate the current total market absorption for natural gas home heating is 29% and electric home heating is 67%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 32 points to the current market share and reaching 61%. On the other hand, electric heated home preference declined 35 points from the current market share to 32%. These preference differences are well outside this study's margins of error suggesting significant natural gas home heating market expansion opportunities. The same can be said for all four natural gas appliances in this study.

When parsing the database by the survey respondents' current heating energy source, we found 87.5% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 12.5% of the current natural gas heating homeowners indicated they would prefer electric heating.

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 37.8% - half of the current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 51.4% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 64% indicated they would recommend natural gas while just 28% indicated they would recommend electric heating. This represents more than a 2 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the San Antonio MSAs survey –

- 1) More homeowners preferred natural gas heated homes than purchased natural gas homes by a 2 to 1 margin.
- 2) Less than half of the homeowners who purchased an electric heated home prefer electric heat.
- 3) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated (88% to 38%) compared to electric heat homeowners. In all cases, natural gas customers preferred their appliances to be natural gas whereas electric customers showed significantly less preference for electric.
- 4) There appears to be significant opportunity for natural gas expansion in all gas appliances/applications.
- 5) Customer comments are positively skewed in support of natural gas as an energy source for all appliances and are more emoting (“feel,” “love,” “like,” etc.).
- 6) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (64% versus 28%).

San Antonio, TX - Respondent's Unedited Comments - Reasons for Preference.

Electric

All utilities covered on one bill - no extra expense to fill and rent propane tank.

Because I do not have natural gas service. It is non-existent in our neighborhood.

Better for heating and cooking. Faster to cook and food tastes better. It is cheaper than electric.

Better recovery rate with gas.

Cleaner

Cost

Does not really matter.

Food tastes better when cooked on gas stove; better use of techniques. Dryer and heater : efficiency.

Gas cooking is nice, but prices for electricity are easier to predict than for gas.

Gas dryers dry clothes faster, cooking easier and faster, hot water and oven if power goes out.

Gas is more efficient for heating - heat pumps (a/c) do not heat as well.

Gas smell - frightens me

Have lived in county and we do not like the odor of butane.

I hate my electric stove, it cooks at uneven temps! Gas stove is better.

I like cooking better with gas rather than electric. To me it cooks more evenly.

I think that would be more safe, where as natural gas would be less controlled.

I trust electricity but I really like the performance of gas on cooking and heating and the reliability.

It seems easier and minimal risk.

More cost effective.

Natural gas is cheaper (usually) and heats more efficiently.

Natural gas is cheaper. For cooking it is more precise and consistent.

Natural gas makes me nervous.

Natural gas, much more efficient

Naturally, I would prefer to use solar energy, but electric heating only the room(s) we are in is more efficient . .
.we also mostly use our fireplace.

Preferably cheaper. If I could afford to have a solar panel it would be better.

Seems like electricity is easier to deal with than gas - simpler and less things to go wrong.

Water heater hazard, heating feel and reliability.

Natural Gas

Cost

Cost

Cost and better temperature control on cook-top

Cost and energy savings

Distributes heat more efficiently

Economical for home heating, H2O, etc. But much better cooktop control during cooking.

Efficiency, cost

Energy efficient

Especially for cooking - you have more control over the temperature.

Gas is cheaper

Gas is more reliable - have had bad experience with electrical power outage in Dallas, TX, Alexandria, VA and
Washington, D.C.

Heats quicker, more energy efficient.

I do not want to explode, however, I do enjoy cooking smores over natural gas stove. Bacon too.

Love cooking with gas, and I like having natural gas for everything but a dryer. . .scares me for some reason.

More efficient - cleaner burning, costs less.

More even cooking

Natural gas is cleaner, leaves fewer toxins, and is less expensive.

Really enjoy cooking on gas stove. Like the ease of starting gas fireplace.

San Antonio, TX - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

All electric is great.

Cost

Cost

Cost

Electric a/c

Electric heat - cold air until all strips are on.

Electric is expensive, but cheaper to put in, according to my builder.

Electricity costs more than natural gas. My utility bill is really high.

Everything electric is problem when power goes out.

Expense. Do not like electric stove. NBU is a monopoly.

Expensive. High on electric bill.

I have no choice of natural gas. All homes in my area are electric only.

I know gas can be cheaper, but I think the cost is worth it for electricity.

If electricity goes out, I lose all services.

It works okay, but I know I could be paying less if I had natural gas.

No complaints with current service

Not having a choice between electric and gas (our neighborhood has no gas) is frustrating.

Only option I have

Our electric oven has hot/cold spots inside when cooking. Cooks unevenly.

The cost electricity is increasing, if I had the resources I would attempt to use solar panels.

Too much government control.

Unsure how the electricity is produced or the cleanliness.

We are currently satisfied with our energy sources.

With electricity, power goes out and the dryer does not dry as quickly.

Natural Gas

CPS energy is way too expensive

Electric = higher cost

Electric dryer does not dry as quickly as gas.

Electricity is too expensive.

Electric cook top - hard to clean.

I have gas thank you - I removed electric stove and installed gas stove for better control to adjust easier to clean.

No options to choose different providers.

Only that I wish I had a fireplace . . .but it is a little late for that.

Price

Market: San Antonio MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is not used significantly as the source of energy for any of the appliances; whereas, electric is significantly used in all 4 appliances. It is estimated that 59% of San Antonio homes have a fireplace with a ME=±13%. Natural gas and wood serve as the primary energy sources for these homes’ fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for water heating and cooking. Neither energy source shows a significant preference clothes drying.

When preference is broken down by the homes current energy source the data shows a much stronger satisfaction with natural gas. For home heating, water heating and cooking, natural gas showed a significant preference among its customers. Among electric users, the preference to stay with electric was not significant for any appliance.

When asked what energy source you would recommend to a family member, natural gas was chosen 64% compared to 28% for electric and 8% other with a ME=±14%.

Projections

Projected market share for natural gas show significant increases in home heating, water heating and cooking with insufficient data in regards to clothes drying.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 30% | 13% |
| | Electric | 70% | |
| Water Heating | Natural Gas | 30% | 13% |
| | Electric | 70% | |
| Cooking | Natural Gas | 13% | 13% |
| | Electric | 87% | |
| Clothes Drying | Natural Gas | 7% | 13% |
| | Electric | 93% | |
| Fireplace | Natural Gas | 47% | 17% |
| | Electric | 16% | |
| | Wood | 38% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 61% | 13% |
| | Electric | 31% | |
| Water Heating | Natural Gas | 67% | 13% |
| | Electric | 26% | |
| Cooking | Natural Gas | 72% | 13% |
| | Electric | 17% | |
| Clothes Drying | Natural Gas | 43% | 13% |
| | Electric | 44% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 88% | 24% |
| | Electric | 38% | |
| Water Heating | Natural Gas | 94% | 24% |
| | Electric | 35% | |
| Cooking | Natural Gas | 86% | 37% |
| | Electric ₁ | 19% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 46% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 59% | 14% |
| Water Heating | 66% | 14% |
| Cooking | 69% | 14% |
| Clothes Drying ₁ | NA | NA |

1. Insufficient data to make valid estimate

E. Region: Southeast

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any of the appliances compared to electric. Electric is currently the predominant energy source for cooking and clothes drying. It is estimated that 54% of the Southeast's homes have a fireplace with a ME=±9%. Natural gas and wood serve as the primary energy sources for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating, water heating and cooking. Neither energy source shows a significant preference for clothes drying.

When preference is broken down by the homes current energy source the data shows a greater satisfaction with natural gas. For home heating, water heating and cooking, those currently using natural gas significantly preferred to stay with natural gas. Among electric users, the preference to stay with electric was significant for clothes drying.

When asked what energy source you would recommend to a family member, natural gas was chosen 63% compared to 27% for electric and 10% other with a ME=±9%.

Projections

Projected market share for natural gas shows a significant increase in cooking with potential gains in home heating and water heating. There are also significant gains in those preferring at least 1 gas appliance and all 4 gas appliances compared to the current status.

| Current Energy Source | | | |
|-----------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 51% | 9% |
| | Electric | 48% | |
| Water Heating | Natural Gas | 53% | 9% |
| | Electric | 47% | |
| Cooking | Natural Gas | 38% | 9% |
| | Electric | 60% | |
| Clothes Drying | Natural Gas | 7% | 9% |
| | Electric | 92% | |
| Fireplace | Natural Gas | 42% | 13% |
| | Electric | 14% | |
| | Wood | 35% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 62% | 9% |
| | Electric | 31% | |
| Water Heating | Natural Gas | 69% | 9% |
| | Electric | 22% | |
| Cooking | Natural Gas | 68% | 9% |
| | Electric | 29% | |
| Clothes Drying | Natural Gas | 29% | 9% |
| | Electric | 58% | |

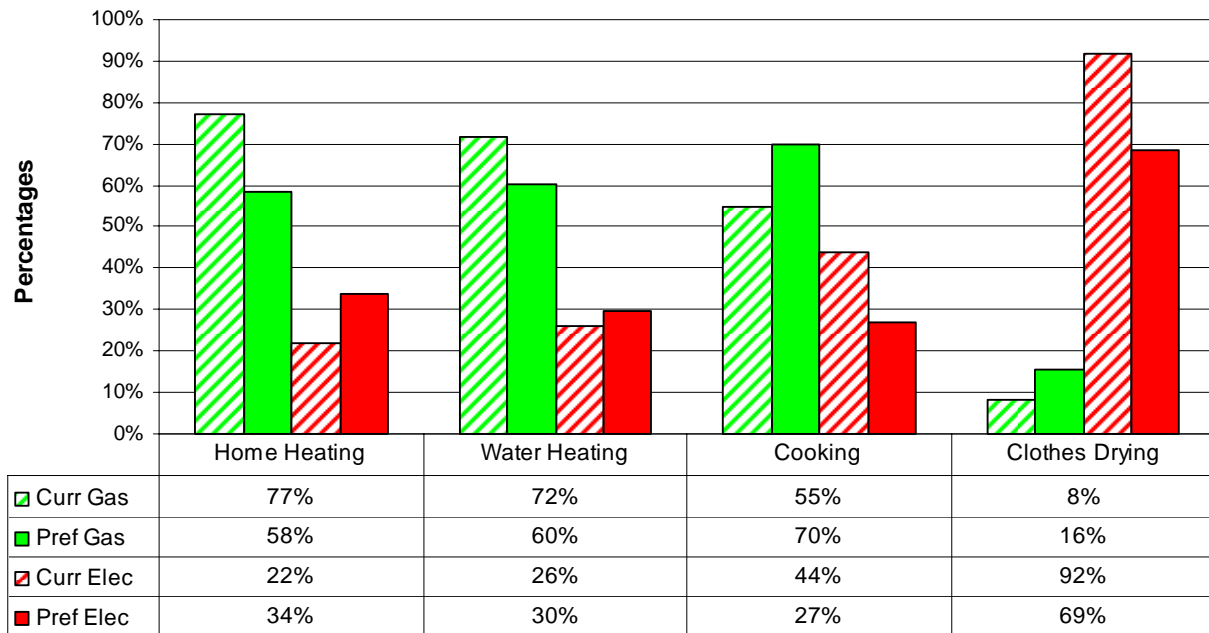
| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|----------|-----|
| Appliance | Current Source | Estimate | ±ME |
| Home Heating | Natural Gas | 74% | 12% |
| | Electric | 43% | |
| Water Heating | Natural Gas | 75% | 12% |
| | Electric | 26% | |
| Cooking | Natural Gas | 80% | 14% |
| | Electric | 36% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 60% | |

| Variable | Status | Estimate | ±ME |
|----------------|-----------|----------|-----|
| At least 1 Gas | Current | 12% | 8% |
| | Preferred | 79% | |
| All Gas | Current | 4% | 8% |
| | Preferred | 21% | |
| All Electric | Current | 40% | 8% |
| | Preferred | 17% | |

1. Insufficient data to make valid estimate

1. Market: Atlanta, GA

Atlanta Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Atlanta MSA surveyed indicate the current total market absorption for natural gas home heating is 76% and electric home heating is 21%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source at 58%, but did lose 18 points relative to current share. On the other hand, electric heated home preference gained 13 points in preference to 34%. Both these current versus preferred heating differences are greater than this study's margin of error ranges. The loss of current to preferred gas market share (and the increase in preferred electric share) only happened in three markets in our study. All three of these markets were above the national average for natural gas heating market share. In Atlanta's MSA, only natural gas cooking appears to be a natural gas expansion opportunity.

When parsing the database by the survey respondents' current heating energy source, we found 69% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 23.5% of the natural gas heating homeowners indicated they would prefer electric heating.

On the other hand, the electric heating retention exercise showed stronger retention – one of only three markets this. Electric heating homeowner retention is just 73.7% and just 15.8% of the current electric heating homeowners would prefer a natural gas furnace.

All study participants were asked which energy source they would recommend to a family member or friend for heating. Natural gas remained the top recommendation at 64% while just 31% indicated they would recommend electric heating. This represents more than a 2 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the Atlanta MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home 3.5 to 1 more often than an electric heated home.
- 2) Other than clothes drying, natural gas is currently the most used energy source.
- 3) Other than clothes drying, natural gas is the most preferred energy source.
- 4) The greatest opportunity for natural gas expansion appears to be cooking where the natural gas preference exceeds current market share.
- 5) Atlanta respondents' comments specifically called out GA Power more than any other market areas' service providers.
- 6) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (64% versus 31%).

Atlanta, GA - Respondent's Unedited Comments - Reasons for Preference.

Electric

Affordable - would do solar or wind if I could afford it.

Cheaper and more efficient

Clean, more efficient usually less expensive

Did not have a choice when I purchased home.

Electric gas seems cleaner.

I like how efficient propane and gas are for the price I pay. They heat house quickly and water is perfectly hot.

I think electric is cheaper than gas.

In a short term home, electric is preferable. Natural gas would be preferable for longer term.

Less chances for carbon monoxide problems, quickly heats, no gas smell.

Never had natural gas, electric just seems easier and cheaper.

Total electric home - EMC Corp.

You have more control over cooking temperature on a gas stove.

Natural Gas

I think gas heating is a stronger source of heat than electric.

Because I do not like having to deal or being worried about a leak and it is possible consequences.

Better, cheaper for heating and cooking.

Came with home.

Convenient, safe, cleanliness

Cooking with gas gives better control.

Cooking with gas is instant on and instant off - you do not have to worry about a burner cooling down.

Cooking with gas is more precise

Dependability

Efficiency

Efficiency

Electric is cheaper

Electric seems to be cheaper than gas.

Electric takes too long for most things (clothes dryer, boiling water, etc.) and pretty expensive.

Energy efficiency, good for the environment and cost effective.

For one I like to stay warm.

Gas cooks better, electric heat smells funny.

Gas heat is faster and cheaper

Gas heat is faster. Gas dryers are more efficient than electric.

Gas heat seems to be warmer, gas stove heats quicker

Gas is more energy efficient.

Gas seems to cost more than electricity - but I still want gas for cooking because it gets hotter with a flame.

Had both. Prefer natural gas as it is much warmer and house stays clean longer.

I am satisfied with what I currently have.

I have always preferred natural gas.

I hear gas cooks more evenly.

I like cooking with gas stove

I prefer the even heat for cooking with gas especially.

I rather cook with electric, I think it bakes better.

If lights go out will still have heat.

If power goes out, can still cook and have heat from fireplace and hot water. Prefer gas.

In my opinion natural gas is more efficient, clean and cheap.

Least expensive

Less of a fire hazard.

Like electric better and feel safer

Lower cost for gas

Make it easier to convert to solar power and save money over time.

Mostly grew up with them and gas stove range is easier to control temperature.

Natural gas costs less than electricity.

Natural gas has been cheaper, cooking is better with natural gas.

Natural gas is clean and plentiful in the U.S.

Natural gas is less expensive and in my opinion more reliable

Natural gas is more sustainable energy source.

Natural gas is slightly more expensive than an electric and dangerous in case of leakages.

Natural gas less expensive. Latest GA power rate increase is preposterous.

Natural gas seems most efficient.

Natural gas seems to produce a "warmer," more instant heat as compared with electric. Gas is also preferred for water heater, since not reliant on electric in case of power outage.

Past usage history

Prefer electric for cooking because of more even heating for stovetop and baking.

Prefer gas cooking, better regulate cooking.

Prefer gas for cooking. Cheaper of the two for home heating (gas for near term).

Safe and green. Indian cooking are done better on gas stove.

Save more space for the water-heater tank

Seems to be more efficient. Prefer to cook with gas vs. electric.

Speed of heating for water and cooking. Also, we have a dual heating with natural gas when the temperature drops low.

The gas company for my area sucks!

They are more economical

Though natural gas tends to be less expensive, I believe electric is safer.

Atlanta, GA - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Do not like having gas starter in fire place.

Expense

Gas is too high in GA.

Georgia Power - price too high.

I am fine with electric for everything except cooling would prefer gas.

Inconsistency in heating for cooking, but dislikes our out weighed by cost.

Not efficient

Price - environment.

Natural Gas

AC/Gas furnace - would prefer dual fuel heat pump with natural gas back-up.

Cost

Cost

Do not have a gas dryer. Hate electric.

Electric - too expensive

Electric is expensive and on power plant discharge too much particulate matter.

Electric seems to be more expensive than natural gas. The gas logs are easier to clean than regular wood.

Electricity = expensive. Natural Gas = dangerous.

Everything is expensive.

GA Power - cost to use.

Gas price is expensive and there is no alternative for home/saving.

Gas seems cheaper and cleaner for heat and utilities

Half of the payment on my bill goes to ATL gas pass through this really sucks!

Hate it!! Accustomed to electricity

High prices

I am satisfied with my current energy sources.

I feel safer with electric hot water and stove.

I was so disappointed to wait until the company showed up and call them every season.

I would prefer 100% renewable/sustainable

Just do not feel like the power it takes to use these things.

None is from a renewable energy source. I wish some component came from solar, wind, geothermal, tidal, etc.

I support policies to make these sources economic for residences.

Running a gas fireplace is like watching greenbacks fly up the chimney.

Safety worries.

Somewhat expensive.

The bill

Those electric appliances are not as energy efficient as natural gas.

Too drying for everything in house including people.

Too expensive during winter months when using gas.

Too much basic fee and processing fees.

Water heater performance.

Would prefer electric for home heating and others . . .less chance of gas leaks the less you use gas.

Would prefer natural gas for stove top cooking, but we have not run the line to the kitchen yet.

Market: Atlanta MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is used significantly as the source of energy for home heating and water heating. Electric is significantly used in clothes drying. It is estimated that 85% of Atlanta homes have a fireplace with a ME=±10%. Natural gas serves as the primary energy source for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for water heating and cooking. For clothes drying, electric is the significant preference.

When preference is broken down by the homes current energy source the data shows mixed results depending on the appliance. For home heating, both natural gas and electric customers are satisfied. Natural gas is significantly preferred among natural gas customers for water heating and cooking. Electric is significantly preferred among electric customers for clothes drying.

When asked what energy source you would recommend to a family member, natural gas was chosen 64% compared to 31% for electric and 5% other with a ME=±11%.

Projections

Projected market share for natural gas shows potential expansion opportunities for cooking.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 77% | 10% |
| | Electric | 22% | |
| Water Heating | Natural Gas | 72% | 10% |
| | Electric | 26% | |
| Cooking | Natural Gas | 55% | 10% |
| | Electric | 44% | |
| Clothes Drying | Natural Gas | 8% | 11% |
| | Electric | 92% | |
| Fireplace | Natural Gas | 72% | 11% |
| | Electric | 9% | |
| | Wood | 16% | |

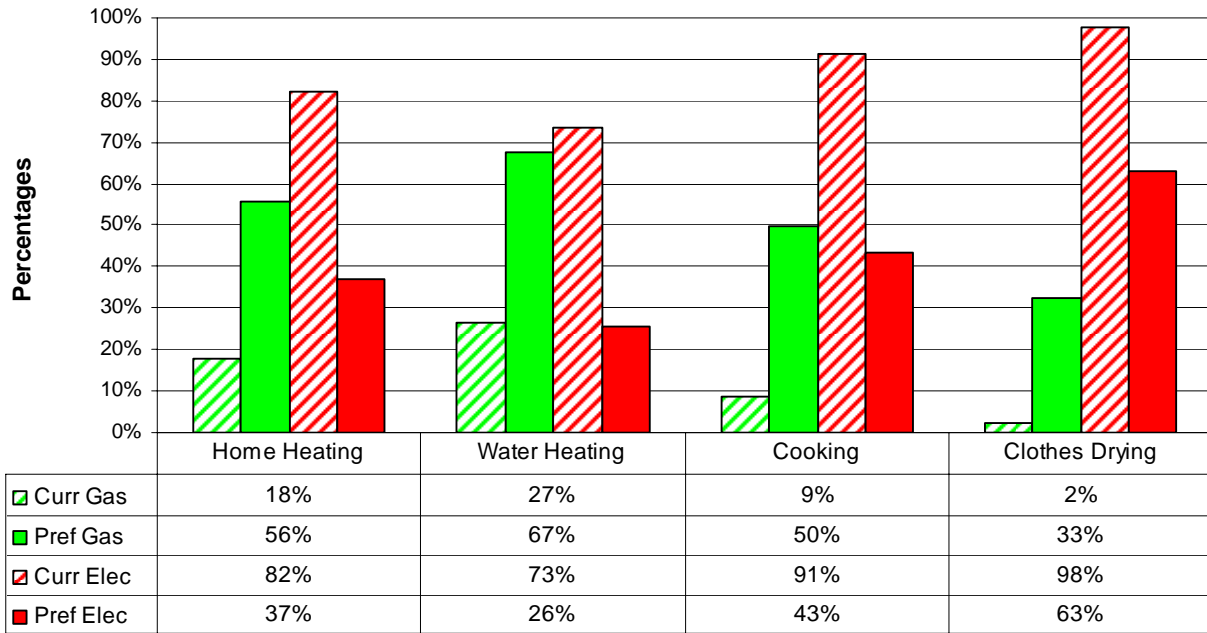
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 58% | 10% |
| | Electric | 34% | |
| Water Heating | Natural Gas | 60% | 10% |
| | Electric | 30% | |
| Cooking | Natural Gas | 70% | 10% |
| | Electric | 27% | |
| Clothes Drying | Natural Gas | 16% | 10% |
| | Electric | 69% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 69% | 12% |
| | Electric | 74% | |
| Water Heating | Natural Gas | 68% | 12% |
| | Electric | 48% | |
| Cooking | Natural Gas | 79% | 14% |
| | Electric | 38% | |
| Clothes Drying | Natural Gas | 29% | 37% |
| | Electric | 70% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 57% | 12% |
| Water Heating | 59% | 11% |
| Cooking | 68% | 11% |
| Clothes Drying | 20% | 12% |

2. Market: Pensacola/Panama, FL

Pensacola/Panama Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Pensacola/Panama MSA surveyed indicate the current total market absorption for natural gas home heating is 17% and electric home heating is 80%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 39 points to the current market share and reaching 56%. On the other hand, electric heated home preference declined 43 points from the current market share to 37%. These current versus preferred heating findings easily exceed this study's margin of error range suggesting significant natural gas home heating market opportunities for expansion. The same can be said for all gas appliances especially when factoring in the statistically significant decrease in customer preferences for any electric appliance.

When parsing the database by the survey respondents' current heating energy source, we found 86% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. No current natural gas heating homeowners indicated they would prefer electric heating. On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 44% - in other words, more than half of the current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 50.0% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 64% indicated they would recommend natural gas while just 36% indicated they would recommend electric heating. This represents nearly a 2 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

Some areas of appliance energy source preference or projections were not available due to limits of margin of error. Pensacola/Panama split this study (and surveys) between other markets (Tampa).

In the Pensacola/Panama MSAs survey –

- 1) More homeowners strongly preferred natural gas heated homes than purchased natural gas homes.
- 2) Less than half of the homeowners who purchased an electric heated home prefer electric heat.
- 3) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners.
- 4) Almost all appliances ratings (except fireplace) show a preference for gas more so than are being currently delivered.
- 5) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (64% versus 36%).
- 6) Two markets split this study (Pensacola/Panama and Tampa) causing lower statistical significance – this lower volume ultimately limited some findings and preferences.

Pensacola / Panama, FL - Respondent's Unedited Comments - Reasons for Preference.

Electric

Because I can switch to solar Paves easier.

Cheaper, gas stove is easier to cook on.

Cost

Does a better job

Due to efficiency of energy

During a hurricane we lost electric but still had gas. We were able to cook and bathe in hot water.

Easier to cook on , I think natural gas is cheaper than electric.

Gas is more efficient.

Has the potential to be more renewable.

I do not like electric heating. Costly and not as comfortable.

I would choose the cheapest and most green for the environment.

It is easier than gas.

Less time heating/cooking.

Lower cost and cooking is better with gas.

More reliable and more familiar with gas appliances.

My preferences, just moved to Florida have previously always had gas (either propane or natural) cleaner.

Natural gas heats faster from previous experience.

Natural gas is a warmer heat, it would have been better to have a gas heated home last year at the 20-year cold snap in Florida.

Old fashioned but I am afraid of gas.

Only one available

Power outages

Price

Tankless water heater saves money. Gas cook tops heat more evenly.

We have been "all electric" for a long time.

When you use gas it is on. When you turn it off it is off.

Natural Gas

Efficiency

Electric is cheaper, safer, and more environment friendly. I would also prefer to drive an electric or solar powered car.

Gas - natural resource from US not dependent on foreign oil.

Gas is clean and cheap. Also it is easier to cook with gas - more control.

Gas is more efficient. Cooking is easier and more accurate.

Hot water even when power goes out. Gas water lasts longer and heats quicker.

Like electric inside and gas outside.

More efficient, less expensive

Used to cooking with electric and more comfortable with it.

We do not use much heat in the winter in Florida

Pensacola / Panama, FL

Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

A/C cost is too high

Air is cold when it comes out for heating - not even.

During a hurricane we lost electric but still had gas. We were able to cook and bathe in hot water. When you lose electric you are totally without.

Electric is too high.

Expensive

Gas still has a slight odor
Having two 50-gal. electric water heaters.
Hot water slow
I burn things on the electric stove!
I dislike our water heater being gas - although the advantage of being able to adjust the temperature is nice.
I would love to have an "on demand" water heater - heating the house would be less costly.
Items stay hot longer after shut down (stove).
My electricity is generated with coal.
No dislikes - each has specific benefits as well as issues.
Our neighborhood does not have gas.
Outages and a pain to cook evenly on the electric stove top.
Power outages
Price is too high
We would like to have more wind and solar energy as a source of electricity.

Natural Gas

Cost
Electric stove stays hot long after it is turned off.
Too high price

Market: Pensacola/Panama MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any appliance. Electric is currently the predominant energy source for all four appliances. It is estimated that 47% of homes in the Pensacola/Panama MSA have a fireplace with a ME=±15%. Wood serves as the primary energy source for these fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for water heating. Neither energy source shows a significant preference for home heating or cooking. Electric is borderline preferred for clothes drying.

When preference is broken down by the homes current energy source the data shows a slightly stronger satisfaction with natural gas. Those currently using natural gas significantly preferred to stay with natural gas for home heating and water heating. Among electric users, the preference to stay with electric was only significant with clothes drying.

When asked what energy source would you recommend to a family member, natural gas was chosen 64% compared to 36% for electric and 0% other with a ME=±16%.

Projections

Projected market share for natural gas shows a significant increase in home heating and water heating.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 18% | 15% |
| | Electric | 82% | |
| Water Heating | Natural Gas | 27% | 15% |
| | Electric | 73% | |
| Cooking | Natural Gas | 9% | 15% |
| | Electric | 91% | |
| Clothes Drying | Natural Gas | 2% | 15% |
| | Electric | 98% | |
| Fireplace | Natural Gas | 14% | 21% |
| | Electric | 14% | |
| | Wood | 62% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 56% | 15% |
| | Electric | 37% | |
| Water Heating | Natural Gas | 67% | 15% |
| | Electric | 26% | |
| Cooking | Natural Gas | 50% | 15% |
| | Electric | 43% | |
| Clothes Drying | Natural Gas | 33% | 15% |
| | Electric | 63% | |

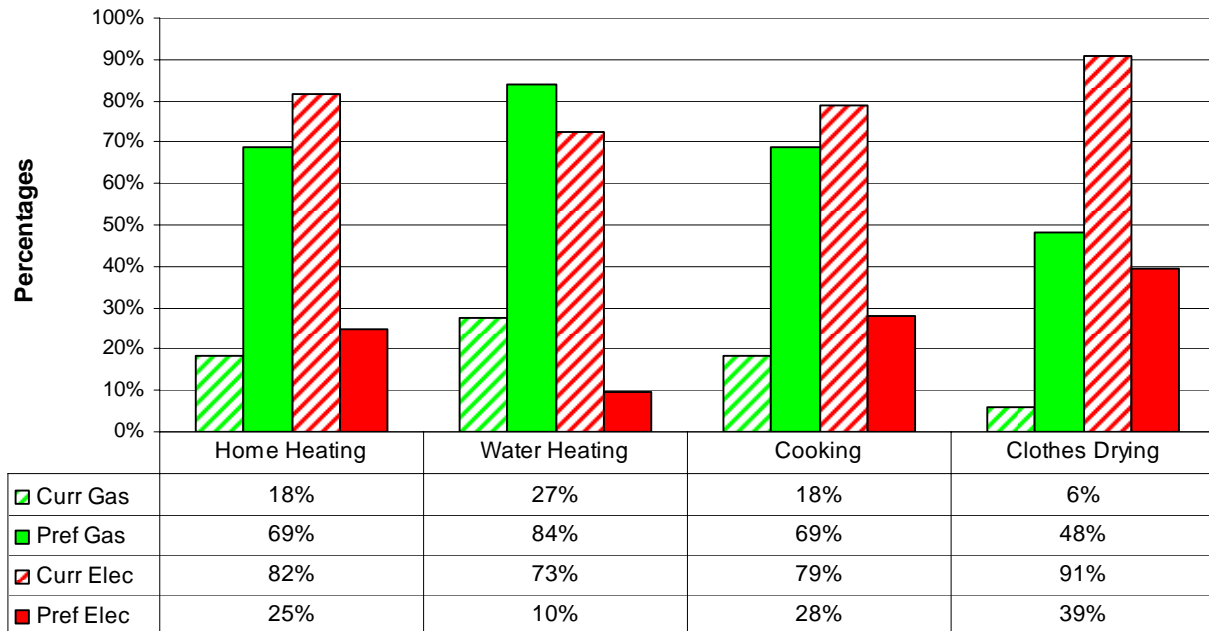
| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 86% | 37% |
| | Electric | 44% | |
| Water Heating | Natural Gas | 91% | 29% |
| | Electric | 31% | |
| Cooking | Natural Gas ₁ | NA | NA |
| | Electric | 46% | |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 64% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 56% | 16% |
| Water Heating | 65% | 15% |
| Cooking ₁ | NA | NA |
| Clothes Drying ₁ | NA | NA |

1. Insufficient data to make valid estimate

3. Market: Tampa, FL

Tampa Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Tampa MSA surveyed indicate the current total market absorption for natural gas home heating is 18% and electric home heating is 82%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 51 points to the current market share and reaching 69%. On the other hand, electric heated home preference declined 57 points from the current market share to 25%. These current versus preferred heating findings easily exceed this study's margin of error range suggesting significant natural gas home heating market opportunities for expansion. The same can be said for all gas appliances especially when factoring in the statistically significant decrease in customer preferences for any electric appliance.

When parsing the database by the survey respondents' current heating energy source, we found 100% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate.

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 31% - in other words, less than 1 out 3 current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 61.5% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 62% indicated they would recommend natural gas while just 17% indicated they would recommend electric heating. This represents nearly a 3 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

Some areas of appliance energy source preference or projections were not available due to limits of margin of error. Tampa split this study (and surveys) between other markets (Pensacola/Panama).

In the Tampa MSAs survey –

- 1) More homeowners strongly preferred natural gas heated homes than purchased natural gas homes.
- 2) Less than 1 out of 3 homeowners who purchased an electric heated home prefer electric heat.
- 3) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners.
- 4) Almost all appliances ratings (except fireplace) show a preference for gas more so than are being currently delivered.
- 5) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (62% versus 17%).
- 6) Two markets split this study (Tampa and Pensacola/Panama) causing lower statistical significance – this lower volume ultimately limited some findings and preferences.

Tampa, FL - Respondent's Unedited Comments - Reasons for Preference.

Electric

Better way to cook - more immediate heat usually costs less also.

Cheaper for natural gas. Would love a gas fireplace.

Clean and efficient

Cleaner - more efficient with gas cooking control.

Cooking is better.

Cooking with gas gives more flexibility and control of the temperature. Gas heat may be cheaper.

Do not know a lot about natural gas.

Economy, better cooking

Electric is safe; no carbon monoxide fumes. Natural gas - easy to control heat when cooking.

Gas heat is warm!

Gas heats the water faster and is also easier to cook with for temperature control. But, it is dirty for heat and clothes dryers. Had at my homes in Birmingham and Atlanta and did not like it.

Gas stove heats up faster, seems as though gas is cleaner and more efficient.

Heat pump is insufficient; gas furnace provided better warmth.

I have a glass top stove.

I like natural gas heat because it is not as dry of air, faster better heat.

I like to be earth conscious but still have the luxury of heat.

I lived in the NE and was used to gas - instant temperature - more efficient, less expensive.

More comfortable with electricity than natural gas.

Natural gas is cheaper and cooking is more controlled.

Natural gas is more efficient.

Performance, love to cook with gas.

Prefer gas for cooking.

Safer than gas, no chance of explosion or fumes.

Solar because it is eco-friendly. Gas is scary because of leaks inside the house.

Natural Gas

Efficiency and better for the environment.

Gas is preferable for cooking as heat can be reduced immediately.

I grew up using my preferences

I have never had a gas dryer

It is what I am used to, plus I do not cook much.

Less expensive

Mainly in house when purchased cook with gas, faster and easier to use, lose power still have.

Mostly cost - gas is cheaper. Also - gas just feels warmer. Easier and quicker to regulate temperature.

Tampa, FL - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Cost

Cost - do not like cooking with electric

Eclectic heat is expensive.

Electric bills keep getting higher.

Expense

Heat pump is insufficient; gas furnace provided better warmth.

Hot water

I am okay with my current source, would rally prefer gas cooking though

It is adequate, no other choice available - air conditioning must be electric, right?

Monopoly - natural gas not available

More expensive

More expensive.

Propane can be expensive.

The price!

Too expensive!

Very difficult to get used to cooking. Much more reliable heat source, more reliable energy source - no temporary loss of gas.

Wish I had a gas stove and dryer.

Natural Gas - No Comments

Market: Tampa, MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any appliance. Electric is currently the predominant energy source for all four appliances. It is estimated that 30% of Tampa homes have a fireplace with a ME= \pm 17%. Natural gas was not a source of energy for any of the respondents – wood is the preferred fireplace energy source.

Preferred Energy Source

Overall, the preferred energy source is natural gas for home heating, water heating and cooking. Neither energy source shows a significant preference for clothes drying.

When preference is broken down by the homes current energy source the data shows a much stronger satisfaction with natural gas. Of those currently using natural gas 100% preferred to stay with natural gas for home heating and water heating. Among electric users, the preference to stay with electric was not significant with any of the appliances.

When asked what energy source would you recommend to a family member, natural gas was chosen 62% compared to 17% for electric and 21% other with a ME= \pm 18%.

Projections

Projected market share for natural gas shows a natural gas expansion opportunity in home heating and water heating.

| Current Energy Source | | | |
|-----------------------|---------------|---------|----------|
| Appliance | Energy Source | Percent | \pm ME |
| Home Heating | Natural Gas | 18% | 17% |
| | Electric | 82% | |
| Water Heating | Natural Gas | 27% | 17% |
| | Electric | 73% | |
| Cooking | Natural Gas | 18% | 17% |
| | Electric | 79% | |
| Clothes Drying | Natural Gas | 6% | 17% |
| | Electric | 91% | |
| Fireplace | Natural Gas | 0% | 31% |
| | Electric | 20% | |
| | Wood | 60% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|----------|
| Appliance | Energy Source | Percent | \pm ME |
| Home Heating | Natural Gas | 69% | 17% |
| | Electric | 25% | |
| Water Heating | Natural Gas | 84% | 18% |
| | Electric | 10% | |
| Cooking | Natural Gas | 69% | 17% |
| | Electric | 28% | |
| Clothes Drying | Natural Gas | 48% | 17% |
| | Electric | 39% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|--------------------------|---------|----------|
| Appliance | Current Source | Percent | \pm ME |
| Home Heating | Natural Gas | 100% | 40% |
| | Electric | 31% | 19% |
| Water Heating | Natural Gas | 100% | 35% |
| | Electric | 13% | 20% |
| Cooking | Natural Gas ₁ | NA | NA |
| | Electric | 31% | 19% |
| Clothes Drying | Natural Gas ₁ | NA | NA |
| | Electric | 43% | 18% |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|----------|
| Appliance | Percent | \pm ME |
| Home Heating | 56% | 16% |
| Water Heating | 65% | 15% |
| Cooking ₁ | NA | NA |
| Clothes Drying ₁ | NA | NA |

1. Insufficient data to make valid estimate

F. Region: West

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for all four appliances compared to electric. It is estimated that 57% of West's homes have a fireplace with a ME=±8%. Natural gas serves as the primary energy source for the West's fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for all four appliances. The preferred rate for home heating, cooking and clothes drying is greater than the current rate for natural gas.

When preference is broken down by the homes current energy source the data shows a much greater preference/satisfaction with natural gas. Within each category, those currently using natural gas overwhelmingly preferred to stay with natural gas. Among electric users, the preference to stay with electric was not significant for any of the appliances.

When asked what energy source you would recommend to a family member, natural gas was chosen 79% compared to 18% for electric and 8% other with a ME=±8%.

Projections

Projected market share for natural gas shows a natural gas expansion opportunity in cooking with potential expansion in home heating and clothes drying. There is significant growth for households wanting all gas appliances.

| Current Energy Source | | | |
|-----------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 67% | 8% |
| | Electric | 33% | |
| Water Heating | Natural Gas | 79% | 8% |
| | Electric | 21% | |
| Cooking | Natural Gas | 69% | 8% |
| | Electric | 30% | |
| Clothes Drying | Natural Gas | 59% | 8% |
| | Electric | 40% | |
| Fireplace | Natural Gas | 58% | 11% |
| | Electric | 15% | |
| | Wood | 26% | |

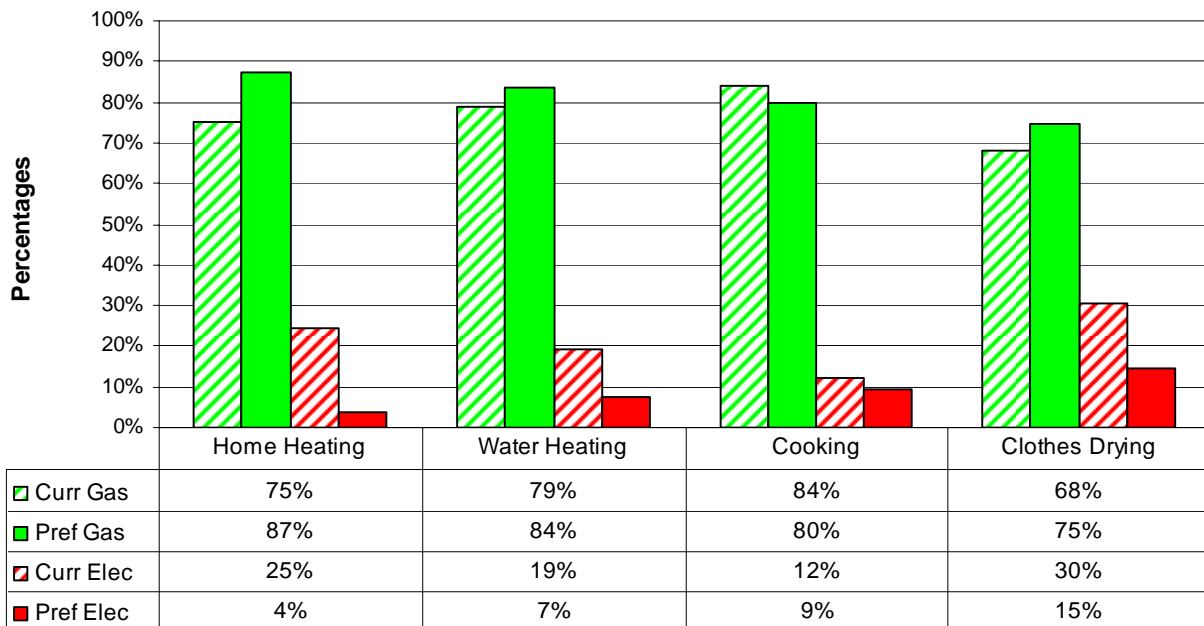
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|----------|-----|
| Appliance | Energy Source | Estimate | ±ME |
| Home Heating | Natural Gas | 76% | 8% |
| | Electric | 14% | |
| Water Heating | Natural Gas | 76% | 8% |
| | Electric | 14% | |
| Cooking | Natural Gas | 81% | 8% |
| | Electric | 15% | |
| Clothes Drying | Natural Gas | 67% | 8% |
| | Electric | 21% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|----------|-----|
| Appliance | Current Source | Estimate | ±ME |
| Home Heating | Natural Gas | 91% | 10% |
| | Electric | 38% | |
| Water Heating | Natural Gas | 88% | 9% |
| | Electric | 54% | |
| Cooking | Natural Gas | 90% | 10% |
| | Electric | 34% | |
| Clothes Drying | Natural Gas | 88% | 11% |
| | Electric | 46% | |

| Variable | Status | Estimate | ±ME |
|----------------|-----------|----------|-----|
| At least 1 Gas | Current | 81% | 7% |
| | Preferred | 84% | |
| All Gas | Current | 4% | 7% |
| | Preferred | 60% | |
| All Electric | Current | 18% | 7% |
| | Preferred | 9% | |

1. Market: Las Vegas, NV

Las Vegas Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Las Vegas MSA surveyed indicate the current total market absorption for natural gas home heating is 74% and electric home heating is 25%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 13 points to the current market share and reaching 87%. On the other hand, electric heated home preference declined 21 points from the current market share to 4%. The natural gas margin of error of 13% puts the gas findings on the borderline but suggest natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant decrease in electrical heating preference.

When parsing the database by the survey respondents' current heating energy source, we found 95% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. No current gas heating customer responded that they preferred an electric heated home.

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 15% - 1 out of 6 of the current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 61.5% preferring to have natural gas home heating.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 78% indicated they would recommend natural gas while just 8% indicated they would recommend electric heating. This represents nearly a 10 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

Some areas of appliance energy source preference or projections had higher margins of error than we preferred. Las Vegas split this study (and surveys) with another market (Phoenix).

In the Las Vegas MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home 300% more often than an electric heated home.
- 2) More homeowners preferred natural gas heated homes than purchased natural gas homes.
- 3) Only 1 out of 6 homeowners who purchased an electric heated home prefer electric heat.
- 4) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners.
- 5) The greatest opportunity for natural gas expansion appears to be in heating.
- 6) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (78% versus 8%).
- 7) Two markets split this study (Las Vegas and Phoenix) causing higher margins of error in some categories.

Las Vegas, NV - Respondent's Unedited Comments - Reasons for Preference.

Electric

Because natural gas is a lot more efficient and a lot less polluting to our environment.
Better for the environment.
Cheaper
Cleaner
Cleaner energy and not as expensive
Gas and oil are explosives
I don't have two bills for electric and gas.
Most available.

Natural Gas

Because that is what I am used to. I was forced when I moved to use gas as a dryer choice and what the house was fitted with before.
Better and cheaper
Cheaper
Cheaper
Cheaper
Cheaper, faster heating.
Clothes dryer easier/more reasonable to repair.
Cooking with electric stove faster more consistent
Cost
Cost of electric is too high. I can not afford it.
Costs less
Environment friendly
Faster recovery - faster cooking
For economy
Gas is cheaper than electricity
Heat is better/efficient - able to control better - less cost.
I am not very well informed on the differences between natural gas and electric appliances and home heating machines.
I love my tankless water heater!
I prefer both electric and gas appliances in my home and always have - I was raised that way too!!
I prefer natural gas for cooking.
I think it is a bit cheaper than electricity, the gas heats quicker than electric.
It is cheaper and more efficient
It is less expensive
Less expensive
Less expensive than electric, do not see "power stations or lines"
More efficient
More efficient and cheaper
More efficient.
More inexpensive
Natural gas is cheaper and more efficient - electric companies are crooks.
Natural gas is cheaper than electric. I will be researching solar energy as an option as well.
Natural gas is cheaper, but electric stove cooks more evenly.
Natural gas is clean and cheaper
Natural gas is cleaner and cleaner
Natural gas is more cost efficient
Natural gas is more efficient than electric. It is a natural and abundant reserve.
Price

Reasonable rates

The cost especially during the summer - air conditioning

The cost of natural gas is cheaper - I choose electric for dryer for safety reasons.

You cook better.

Las Vegas, NV - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Cost

Electric power is too high and does not cost the company near what they charge for it. Extortion!

Expensive. Dislike cooking with electric. Gas not yet available in my area!

Goes out too often

I would have been happier if we were to use less electricity and more gas.

Increases in costs.

Not cost effective

Natural Gas

Depletes a natural resource

Electric double oven do not like cooks different and broiled meat tastes better with gas.

Expense

High electric rates and most meter readers can not see.

It is expensive - solar energy is very interesting to me vs. standard energy.

N.E. too expensive!

None other than prefer electric stove.

The cost and monopoly

The Federal Government - EPA

Market: Las Vegas, MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for all four appliances compared to electric. It is estimated that 40% of Las Vegas homes have a fireplace with a ME=±13%. Natural gas was preferred in these homes' fireplaces, but not statistically significant.

Preferred Energy Source

Overall, the preferred energy source is natural gas for all four appliances. The preferred rate for each appliance is the same or greater than the current rate for natural gas.

When preference is broken down by the homes current energy source the data shows a much greater satisfaction with natural gas. Within each category, those currently using natural gas overwhelmingly preferred to stay with natural gas. Among electric users, the preference to stay with electric was not significant for any of the appliances.

When asked what energy source you would recommend to a family member, natural gas was chosen 78% compared to 8% for electric and 14% other with a ME=±8%.

Projections

Projected market share for natural gas does not identify any significant increase in any of the appliances.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 75% | 13% |
| | Electric | 25% | |
| Water Heating | Natural Gas | 79% | 13% |
| | Electric | 19% | |
| Cooking | Natural Gas | 84% | 13% |
| | Electric | 12% | |
| Clothes Drying | Natural Gas | 68% | 13% |
| | Electric | 30% | |
| Fireplace | Natural Gas | 57% | 20% |
| | Electric | 22% | |
| | Wood | 22% | |

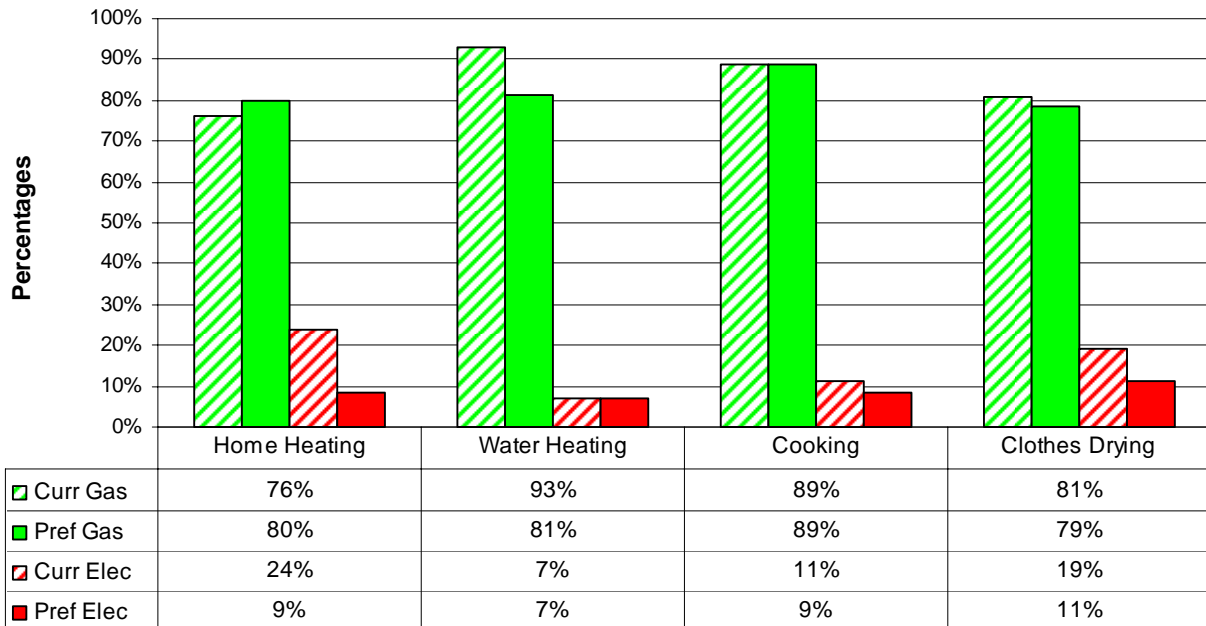
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 87% | 13% |
| | Electric | 4% | |
| Water Heating | Natural Gas | 84% | 13% |
| | Electric | 7% | |
| Cooking | Natural Gas | 80% | 13% |
| | Electric | 9% | |
| Clothes Drying | Natural Gas | 75% | 13% |
| | Electric | 15% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 95% | 15% |
| | Electric | 15% | |
| Water Heating | Natural Gas | 93% | 15% |
| | Electric | 36% | |
| Cooking | Natural Gas | 84% | 15% |
| | Electric | 29% | |
| Clothes Drying | Natural Gas | 84% | 16% |
| | Electric | 35% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 85% | 10% |
| Water Heating | 82% | 10% |
| Cooking | 76% | 14% |
| Clothes Drying | 74% | 14% |

2. Market: Los Angeles, CA

Los Angeles Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Los Angeles MSA surveyed indicate the current total market absorption for natural gas home heating is 72% and electric home heating is 22%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 8 points to the current market share and reaching 80%. On the other hand, electric heated home preference declined 12 points from the current market share to 9%. The natural gas margin of error of 12% puts the gas findings within the margin of error but may suggest natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant decrease in electrical heating preference.

When parsing the database by the survey respondents' current heating energy source, we found 92% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 2% of the current natural gas heating respondents indicated they would prefer electric heat.

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 31% - less than 1 out of 3 current electric heating homeowners would prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 37.5% preferring to have natural gas home heating. The remainder indicated "Doesn't matter" for their heating source.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 86% indicated they would recommend natural gas while just 8% indicated they would recommend electric heating. This represents a 10 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the Los Angeles MSAs survey –

- 1) Homeowners of recently purchased homes chose a natural gas heated home 300% more often than an electric heated home.
- 2) More homeowners preferred natural gas heated homes than purchased natural gas homes.
- 3) Less than 1 out of 3 homeowners who purchased an electric heated home prefer electric heat.
- 4) Homeowners who have a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners.
- 5) Respondents indicate that they are much more willing to refer natural gas to family and friends than electric (86% versus 8%).

Los Angeles, CA - Respondent's Unedited Comments - Reasons for Preference.

Electric

We like the faster and hotter heating of gas for cooking.

We prefer which ever one is better for the environment and cost is a concern.

Natural Gas

Cheap

Cheaper

Cheaper

Cheaper

Cheaper than electric

Cheaper, I think it is more environmentally correct. Gas stove is what I am used to cooking with and if electricity/power is out (storm?) I still have a stove to use.

Clean; low cost

Cleaner

Cost

Cost

Cost

Cost and environment

Cost effective

Cost mainly. For cooking it is also faster to get the right temperature.

Cost, better control, quicker heating

Cost, effectiveness

Cost, safety

Cost

Easier to control cooking with a gas flame, in our area natural gas seems to be less expensive, gas is quieter for heating.

Electric is more expensive

Electric is safer.

Electric is too expensive

Food cooks better using gas than electricity, and in general gas is cheaper than electricity.

Food tastes better cooked on a gas stove than an electric stove.

For cooking I have always preferred gas and for everything else.

Gas burns hotter, therefore, it dries clothes quicker.

Gas costs less than electric

Gas is cheaper and also a cleaner form of energy.

Gas is cheaper than electric

Gas is more economical.

Gas seems quicker, more energy efficient.

Higher efficiency

I am afraid of gas. Electric is cleaner.

I believe it is safer

I really do not have a particular reason as to why I chose these.

I think because gas is cheaper than electricity

I think electric would cost more, but if it costs the same or less, I would prefer electric.

I think gas is cheaper and more efficient. Maybe would like my oven to be electric for precise control.

I would want to use what is most efficient and effective, but I do not know enough to decide between electric and natural gas.

It costs less

It is cheaper
Less expensive
Less expensive
Less expensive and more efficient.
Low cost
More economical
More efficient/cost effective
More efficient; cheaper; and for cooking, dryer. Electric outlet determined that electric stoves/dryer can not be installed.
More environmentally friendly
Most cost effective.
Natural gas is cheaper and does not involve using nuclear energy, which I would fight with all my might.
Natural gas is economical
Natural gas is more efficient
Price, better cooking capability.
The price
They are cheaper
They are the most efficient
To have clean air and protect from pollutants. Stop buying oil from Middle East.
You lose electrical power, you lose everything.

Los Angeles, CA - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

House heating is a little noisy
I do not like gas in my home - for my animals.
I just installed central heating and it is very expensive. Electricity.
Lack of effectiveness when the temperature outside is too low.
The relatively higher cost of electricity.
Would like new source of energy

Natural Gas

Not "green"
Both are polluters.
Danger of gas leaks, open flame of gas in cooking stove.
Dislike electric stovetop - worry it stays on without knowing it - slow to heat up.
Electric is costly
Expensive and have to change filters.
I feel they could be greener
Mostly happy, could always be cheaper.
None. Well to be honest, our electric bill gets kind of high, especially in the summer.
Pilot light blew out on a windy day
Price
They are not renewable.
Too expensive.
Using home heating with natural gas I get headache and sick.
Wish electric utilities would get serious about constructing a solar grid for this country and stop using coal/ for shale!
Wish we had reliable "green" options (solar, wind, geothermal, etc.)
Worry about leaks/shutting on/off.

Market: Los Angeles MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is the predominant source of energy for all four appliances compared to electric. It is estimated that 57% of Los Angeles homes have a fireplace with a ME=±12%. Natural gas serves as the primary source of energy for these homes' fireplaces.

Preferred Energy Source

Overall, the preferred energy source is natural gas for all four appliances. The preferred rate for each appliance is the same or greater than the current rate for natural gas.

When preference is broken down by the homes current energy source the data shows an increased satisfaction with natural gas. Within each category, those currently using natural gas overwhelmingly preferred to stay with natural gas. Among electric users, the preference to stay with electric was not significant for any of the appliances.

When asked what energy source you would recommend to a family member, natural gas was chosen 86% compared to 8% for electric and 6% other with a ME=±12%.

Projections

Projected market share for natural gas does not identify any significant gas expansion opportunities.

| Current Energy Source | | | |
|-----------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 76% | 12% |
| | Electric | 24% | |
| Water Heating | Natural Gas | 93% | 12% |
| | Electric | 7% | |
| Cooking | Natural Gas | 89% | 12% |
| | Electric | 11% | |
| Clothes Drying | Natural Gas | 81% | 12% |
| | Electric | 19% | |
| Fireplace | Natural Gas | 75% | 15% |
| | Electric | 3% | |
| | Wood | 23% | |

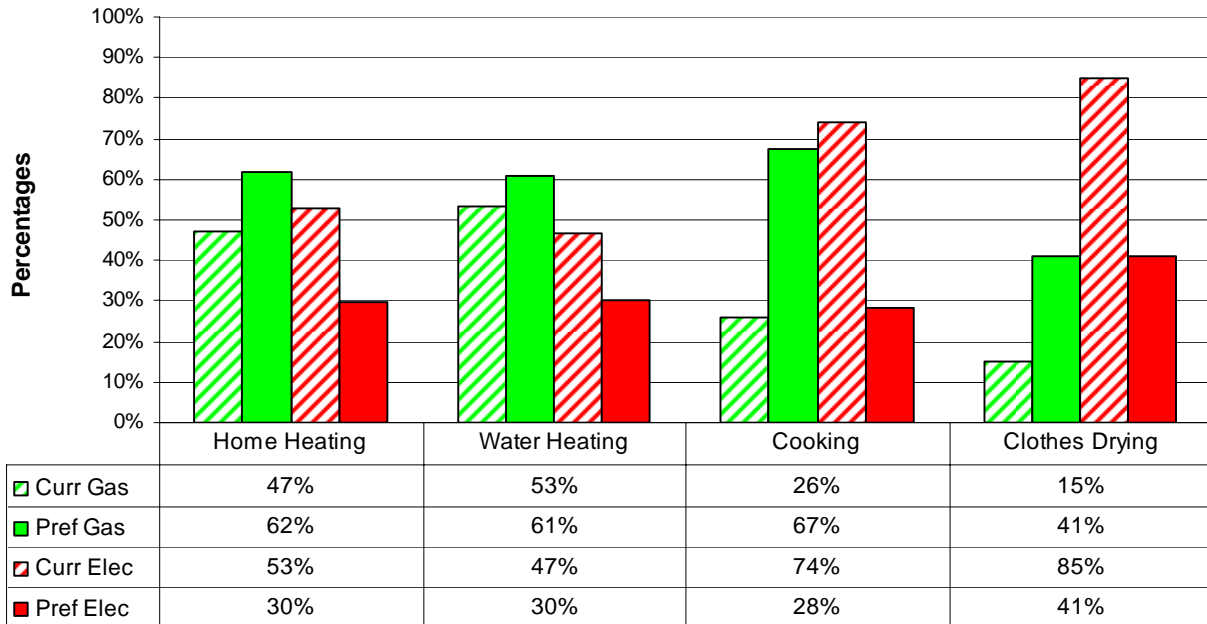
| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|-----|
| Appliance | Energy Source | Percent | ±ME |
| Home Heating | Natural Gas | 80% | 12% |
| | Electric | 9% | |
| Water Heating | Natural Gas | 81% | 12% |
| | Electric | 7% | |
| Cooking | Natural Gas | 89% | 12% |
| | Electric | 9% | |
| Clothes Drying | Natural Gas | 79% | 12% |
| | Electric | 11% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|---------|-----|
| Appliance | Current Source | Percent | ±ME |
| Home Heating | Natural Gas | 92% | 14% |
| | Electric | 31% | |
| Water Heating | Natural Gas | 87% | 12% |
| | Electric | NA | |
| Cooking | Natural Gas | 92% | 13% |
| | Electric | 25% | |
| Clothes Drying | Natural Gas | 89% | 13% |
| | Electric | 38% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|-----|
| Appliance | Percent | ±ME |
| Home Heating | 79% | 11% |
| Water Heating | 81% | 13% |
| Cooking | 88% | 9% |
| Clothes Drying | 80% | 12% |

3. Market: Phoenix, AZ

Phoenix Current Energy Source vs. Preferred



Woodland, O'Brien & Scott / Energy Solutions Center

See tables for margin of error.

The collective responses for the Phoenix MSA surveyed indicate the current total market absorption for natural gas home heating is 44% and electric home heating is 50%. These new homeowners were also queried as to what energy source they preferred. Natural gas was the most preferred heating source adding 18 points to the current market share and reaching 62%. On the other hand, electric heated home preference declined 20 points from the current market share to 30%. The natural gas margin of error of 15% puts the gas findings beyond the margin of error suggesting natural gas home heating market has opportunities for expansion, especially when factoring in the statistically significant decrease in electrical heating preference.

When parsing the database by the survey respondents' current heating energy source, we found 85% of the current natural gas respondents maintain their preference for natural gas heating. We call this the natural gas heating retention rate. Only 10% of the current natural gas heating respondents indicated they would prefer electric heat and 5% indicated "Doesn't matter."

On the other hand, the electric heating retention exercise shows a dramatically different result. Electric heating homeowner retention is just 50% - one half of the current electric heating homeowners prefer a different energy source. Natural gas heating was these homeowners' first heating preference with 37.5% preferring to have natural gas home heating. The remainder indicated "Doesn't matter" for their heating source.

All study participants were asked which energy source they would recommend to a family member or friend for heating. The biggest percentage, 65% indicated they would recommend natural gas while just 28% indicated they would recommend electric heating. This represents more than a 2 to 1 differential in willingness to refer natural gas heating over electric heating to family members or friends.

In the Phoenix MSAs survey –

- 1) More homeowners preferred natural gas heated homes (2 to 1) than electric heated homes.
- 3) Only half of the current homeowners who purchased an electric heated home prefer electric heat.
- 4) Homeowners with a natural gas heated home had significantly higher preference for natural gas heated compared to electric heat homeowners (85% to 50%).
- 5) Respondents indicate that they are much more than twice as willing to refer natural gas to family and friends than electric (65% versus 28%).

Phoenix, AZ - Respondent's Unedited Comments - Reasons for Preference.

Electric

Better control with cooking and less expensive

Bought new house in AZ. It is all electric and it has been good.

Cleaner, safer, cheaper

Cooking with gas always seems better because of heat distribution and quick temperature change.

Cooking with gas better tasting food.

Cost

Easier, no worries about running out.

Electric is all I have had for years and I think it would be cleaner than gas.

Energy save, convenient, safe.

For cooking gas stoves are easier to control temp. Gas is harder to change out appliances etc. on my own.

Gas is hotter and cheaper and faster.

I do not like having a gas heater

I have never been comfortable with gas and think it costs more.

Less pollution - better control of stove

Lower costs for natural gas. Also our previous home had them and I prefer cooking on a gas stove, clothes dry faster, etc!

My previous home had gas - it was more efficient for cooking and drying clothes.

No natural gas option in our area.

The cost

Natural Gas

Affordability, efficiency, speed

Cheaper

Cheaper and better for the environment

Clean burning, lower cost than electric.

Cost

Cost

Cost, efficiency, control

Electric is cleaner

Electric is safer/less costly

From my understanding, natural gas heats up faster.

Gas gets hot very quickly and once off cools faster (cook top).

Gas heats things faster.

Gas is less expensive, cooks faster

Gas is less expensive - cooking with gas is far superior to electric - gas is cleaner.

Hot faster than the other choices.

I have had many cooking/stoves which were electric and I am more familiar with them. Natural gas home heating is much warmer than electric.

I have not had any issues with our energy sources

I like cooking with gas rather than electric, I have heard gas clothes dryers do not dry evenly.

Immediate response from N.G; more efficient, counting on a change in Washington will result in a more realistic approach to exploration - keeping price point affordable.

Less expensive

Living in Southern AZ, electric is extremely high July - October . 300+ for my Northern exposure, sunblock screens, blinds and thermos set at 79-80 degrees. I can not afford all electric.

Lower energy bills

Natural gas currently is cheaper. I would be ok with electrical if it was cheaper than gas.

Natural gas is clean and less expensive.

Price, speed of heated water, etc.

Used to choices over the years.

We would like to go completely solar. Electric appliances allow to purchase solar from the grid or off grid.

Phoenix, AZ - Respondent's Unedited Comments - Dislikes with current energy sources.

Electric

Cost

Electric is too expensive.

Electric stove

Every day is a little more expensive.

Hard to cook with electric stove - when hot, stays hot.

I do not have any, other than expense.

I love cooking with gas, but it is not an option here.

Money

Not efficient

Wish everything was gas.

Natural Gas

Satisfied, except concern about gas leaks/explosions.

"Green" energy sources cost more.

Do not care for the electric stove/oven.

Do not like electric stove, too adjust heat, burners stay hot long after cooking.

Do not like my electric cook top

Electric is expensive

Electric stove is terrible for cooking.

Electricity costs too much

Energy rate increases in general

I do not like an open fire on the cooking/stove.

Summer electric is expensive

Very expensive (electric)

Market: Phoenix MSA Data/Tables

Current Energy Source

Current energy data shows that natural gas is not the predominant source of energy for any of the appliances compared to electric. Electric was the predominant energy source for cooking and clothes drying. It is estimated that 38% of Phoenix homes have a fireplace with a ME= \pm 14%. No energy source showed a significant preference for those fireplaces.

Preferred Energy Source

Overall, the preferred energy source for cooking is natural gas. For electric, there is no individual appliance that shows a preference.

When preference is broken down by the homes current energy source the data shows an increased satisfaction with natural gas. Within each category, those currently using natural gas overwhelmingly preferred to stay with natural gas. Among electric users, the preference to stay with electric was not significant for any of the appliances.

When asked what energy source you would recommend to a family member, natural gas was chosen 65% compared to 28% for electric and 7% other with a ME= \pm 15%.

Projections

Projected market share for natural gas shows potential natural gas expansion in cooking and clothes drying.

| Current Energy Source | | | |
|-----------------------|---------------|---------|----------|
| Appliance | Energy Source | Percent | \pm ME |
| Home Heating | Natural Gas | 47% | 15% |
| | Electric | 53% | |
| Water Heating | Natural Gas | 53% | 14% |
| | Electric | 47% | |
| Cooking | Natural Gas | 26% | 14% |
| | Electric | 74% | |
| Clothes Drying | Natural Gas | 15% | 14% |
| | Electric | 85% | |
| Fireplace | Natural Gas | 28% | 23% |
| | Electric | 33% | |
| | Wood | 33% | |

| Overall Energy Source Preference | | | |
|----------------------------------|---------------|---------|----------|
| Appliance | Energy Source | Percent | \pm ME |
| Home Heating | Natural Gas | 62% | 15% |
| | Electric | 30% | |
| Water Heating | Natural Gas | 61% | 14% |
| | Electric | 30% | |
| Cooking | Natural Gas | 67% | 14% |
| | Electric | 28% | |
| Clothes Drying | Natural Gas | 41% | 14% |
| | Electric | 41% | |

| Preference for Current Energy Source | | | |
|--------------------------------------|----------------|---------|----------|
| Appliance | Current Source | Percent | \pm ME |
| Home Heating | Natural Gas | 85% | 22% |
| | Electric | 50% | |
| Water Heating | Natural Gas | 88% | 20% |
| | Electric | 62% | |
| Cooking | Natural Gas | 92% | 28% |
| | Electric | 36% | |
| Clothes Drying | Natural Gas | 86% | 37% |
| | Electric | 51% | |

| Projected Natural Gas Market Share | | |
|------------------------------------|---------|----------|
| Appliance | Percent | \pm ME |
| Home Heating | 60% | 15% |
| Water Heating | 61% | 15% |
| Cooking | 66% | 14% |
| Clothes Drying | 41% | 16% |

G. National and Regional Projections of Natural Gas Market Share

These estimates are based on current energy source and preferred energy source within each household's current status. Each of those estimates has variability influencing the overall market share projections for natural gas. There is no way to discern the impact of cost on a household switching from one energy source to the next based on this study.

| National and Regional Projection Tables | | | | |
|---|-----------------------------|------------------|--------------------|-----|
| | Appliance | Current Estimate | Projected Estimate | ±ME |
| National | Home Heating | 64 | 70% | 8% |
| | Water Heating | 70 | 72% | 8% |
| | Cooking | 57 | 74% | 9% |
| | Clothes Drying | 40 | 53% | 10% |
| Midwest | Home Heating | 81 | 66% | 9% |
| | Water Heating | 75 | 71% | 9% |
| | Cooking | 36 | 57% | 10% |
| | Clothes Drying | 22 | 30% | 10% |
| Northeast | Home Heating | 49 | 52% | 12% |
| | Water Heating | 40 | 52% | 12% |
| | Cooking | 16 | 53% | 11% |
| | Clothes Drying ₁ | 3 | NA | NA |
| Northeast | Home Heating | 49 | 52% | 12% |
| | Water Heating | 40 | 52% | 12% |
| | Cooking | 16 | 53% | 11% |
| | Clothes Drying ₁ | 3 | NA | NA |
| South | Home Heating | 52 | 68% | 11% |
| | Water Heating | 58 | 70% | 11% |
| | Cooking | 51 | 78% | 10% |
| | Clothes Drying | 14 | 17% | 5% |
| Southeast | Home Heating | 51 | 61% | 9% |
| | Water Heating | 53 | 69% | 9% |
| | Cooking | 38 | 66% | 9% |
| | Clothes Drying ₁ | 7 | NA | NA |
| West | Home Heating | 67 | 75% | 9% |
| | Water Heating | 79 | 75% | 10% |
| | Cooking | 69 | 80% | 8% |
| | Clothes Drying | 59 | 67% | 9% |

1. Insufficient data to make valid estimate

4. Appendix

A. Survey Summary Comments (see market reports for details)

Those who responded were provided two sections for comments:

1. Please share a few reasons why you have these preferences, and
2. Please share any dislikes with your current energy sources.

A sample of responses is provided to give insight into the rationale that affects decisions about a households' energy source. Many comments stressed energy source preferences based on "what I am used to." Negative comments about the utility companies were not included. Many stressed the preference for green, renewable sources of energy.

Natural Gas Pro's:

- Cheaper, cleaner and energy efficient
- Natural resource independent of foreign oil
- Quicker response time/better recovery rate
- Cooking is faster and provides more control
- During power outages gas still available
- Low maintenance of delivery
- More dependable/reliable
- Tankless water heater option
- Easier startup and cleanup for fireplace
- Feels warmer
- Environmentally more friendly

Natural Gas Con's:

- Safety—gas leaks, explosions, carbon monoxide
- Concern with pilot lights
- Gas smell
- Requires two bills—electric and natural gas
- Difficulty hooking up to gas lines
- Gas hookups not available in all homes
- More expensive/Rate fluctuations
- Gas delivery charge
- Would prefer wood-burning insert in fireplace
- Gas dryers do not dry clothes evenly
- No natural gas available in area

Electric Pro's:

- Safer/More comfortable with electricity
- Cheaper, cleaner, and more convenient
- Easy to shut off
- Quiet heat
- One energy source—one payment
- Easier to convert to solar or wind energy
- No exhaust vent required
- Cooks more evenly
- Stove top easier to clean

Electric Con's

- Electric heat pump not as warm as gas
- Cooks at uneven temperatures
- Electric burners stay hot
- Too long to heat up
- Power stations and power lines
- Some electric companies use gas to run their plants
- Not as energy efficient as gas appliances
- Power outages
- Cost of appliances
- Some appliances require 220V hookups
- Rate increases

B. Raw Data

| Variable | Midwest | | | | | | | | Northeast | | | | | | | | |
|------------------------|---------------|-----------|---------------------|----------------------|-----------|-----------|---------------------|----------------------|-----------|-----------|---------------------|----------------------|-----------|-----------|---------------------|----------------------|----|
| | Indianapolis | | | | St. Louis | | | | Dover | | | | Salisbury | | | | |
| | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec | |
| Home Heating | Natural Gas | 57 | 59 | 50 | 7 | 61 | 44 | 42 | 2 | 28 | 34 | 21 | 9 | 7 | 12 | 5 | 1 |
| | Electric | 23 | 17 | 6 | 11 | 8 | 19 | 13 | 6 | 19 | 10 | 2 | 6 | 11 | 7 | 0 | 6 |
| | Propane | 2 | | | | 0 | | | | 1 | | | | 2 | | | |
| | Oil | 0 | | | | 0 | | | | 3 | | | | 2 | | | |
| | No Preference | | 4 | 0 | 4 | | 6 | 6 | 0 | | 9 | 4 | 4 | | 4 | 2 | 2 |
| Water Heating | Natural Gas | 49 | 52 | 43 | 8 | 56 | 42 | 38 | 3 | 27 | 33 | 18 | 14 | 3 | 11 | 1 | 7 |
| | Electric | 31 | 19 | 1 | 17 | 10 | 20 | 12 | 7 | 26 | 11 | 4 | 7 | 19 | 10 | 1 | 9 |
| | Propane | 1 | | | | 0 | | | | 1 | | | | 0 | | | |
| | Oil | 1 | | | | 0 | | | | 1 | | | | 1 | | | |
| | No Preference | | 9 | 4 | 5 | | 6 | 6 | 0 | | 10 | 4 | 5 | | 4 | 1 | 3 |
| Cooking/ Stove | Natural Gas | 17 | 46 | 16 | 29 | 30 | 40 | 27 | 13 | 10 | 34 | 5 | 26 | 2 | 11 | 1 | 9 |
| | Electric | 64 | 28 | 0 | 28 | 35 | 23 | 2 | 19 | 41 | 13 | 1 | 11 | 21 | 11 | 1 | 9 |
| | Propane | 1 | | | | 1 | | | | 4 | | | | 1 | | | |
| | No Preference | | 7 | 1 | 6 | | 5 | 1 | 3 | | 7 | 3 | 4 | | 3 | 0 | 3 |
| Clothes Dryer | Natural Gas | 11 | 24 | 10 | 13 | 18 | 21 | 14 | 6 | 2 | 19 | 1 | 16 | 0 | 9 | 0 | 9 |
| | Electric | 68 | 43 | 0 | 42 | 48 | 39 | 3 | 35 | 52 | 28 | 0 | 28 | 25 | 11 | 0 | 11 |
| | Propane | 1 | | | | 0 | | | | 1 | | | | 0 | | | |
| | No Preference | | 13 | 1 | 11 | | 8 | 1 | 7 | | 6 | 0 | 6 | | 4 | 0 | 3 |
| Fireplace | Natural Gas | 24 | | | | 18 | | | | 13 | | | | 5 | | | |
| | Electric | 9 | | | | 2 | | | | 3 | | | | 1 | | | |
| | Propane | 2 | | | | 0 | | | | 0 | | | | 4 | | | |
| | Wood | 23 | | | | 19 | | | | 14 | | | | 6 | | | |
| Overall | Natural Gas | | 40 | | | | 46 | | | | 36 | | | | 10 | | |
| | Electric | | 19 | | | | 17 | | | | 9 | | | | 8 | | |
| | Both | | 8 | | | | 1 | | | | 1 | | | | 1 | | |
| | Other | | 4 | | | | 3 | | | | 7 | | | | 5 | | |
| Sample Size | 82 | | | | 69 | | | | 55 | | | | 25 | | | | |
| Population Size | 12238 | | | | 20557 | | | | 1875 | | | | 639 | | | | |

| | | South | | | | | | | | | | | |
|------------------------|---------------|---------|-----------|---------------------|----------------------|---------|-----------|---------------------|----------------------|-------------|-----------|---------------------|----------------------|
| | | Austin | | | | El Paso | | | | San Antonio | | | |
| Variable | | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec |
| Home Heating | Natural Gas | 22 | 25 | 17 | 7 | 27 | 24 | 22 | 1 | 16 | 33 | 14 | 19 |
| | Electric | 13 | 6 | 3 | 3 | 4 | 5 | 3 | 2 | 37 | 17 | 2 | 14 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | Oil | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 4 | 1 | 2 | | 3 | 2 | 1 | | 4 | 0 | 4 |
| Water Heating | Natural Gas | 25 | 26 | 20 | 4 | 28 | 24 | 23 | 0 | 16 | 36 | 15 | 20 |
| | Electric | 9 | 7 | 3 | 3 | 1 | 3 | 2 | 0 | 37 | 14 | 1 | 13 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | Oil | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 3 | 1 | 2 | | 5 | 3 | 1 | | 4 | 0 | 4 |
| Cooking/ Stove | Natural Gas | 26 | 31 | 22 | 8 | 29 | 24 | 23 | 0 | 7 | 39 | 6 | 33 |
| | Electric | 10 | 5 | 3 | 2 | 2 | 5 | 3 | 2 | 47 | 9 | 0 | 9 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | No Preference | | 0 | 0 | 0 | | 3 | 3 | 0 | | 6 | 1 | 5 |
| Clothes Dryer | Natural Gas | 5 | 16 | 4 | 12 | 10 | 16 | 6 | 9 | 4 | 23 | 2 | 21 |
| | Electric | 31 | 16 | 1 | 15 | 21 | 10 | 3 | 7 | 50 | 24 | 1 | 23 |
| | Propane | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 5 | 0 | 4 | | 6 | 1 | 5 | | 7 | 1 | 6 |
| Fireplace | Natural Gas | 8 | | | | 15 | | | | 15 | | | |
| | Electric | 2 | | | | 1 | | | | 5 | | | |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | Wood | 8 | | | | 2 | | | | 12 | | | |
| Overall | Natural Gas | | 25 | | | | 25 | | | | 32 | | |
| | Electric | | 6 | | | | 4 | | | | 14 | | |
| | Both | | 0 | | | | 1 | | | | 2 | | |
| | Other | | 1 | | | | 1 | | | | 4 | | |
| Sample Size | | 37 | | | | 31 | | | | 54 | | | |
| Population Size | | 17222 | | | | 4555 | | | | 14119 | | | |

| | | Southeast | | | | | | | | | | | |
|------------------------|---------------|-----------|-----------|---------------------|----------------------|-----------|-----------|---------------------|----------------------|---------|-----------|---------------------|----------------------|
| | | Atlanta | | | | Pensecola | | | | Tampa | | | |
| Variable | | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec |
| Home Heating | Natural Gas | 68 | 52 | 47 | 3 | 8 | 24 | 6 | 18 | 6 | 22 | 6 | 16 |
| | Electric | 19 | 30 | 16 | 14 | 37 | 16 | 0 | 16 | 27 | 8 | 0 | 8 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | Oil | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 7 | 5 | 2 | | 3 | 1 | 2 | | 2 | 0 | 2 |
| Water Heating | Natural Gas | 63 | 53 | 43 | 8 | 12 | 29 | 10 | 19 | 9 | 26 | 8 | 18 |
| | Electric | 23 | 26 | 15 | 11 | 33 | 11 | 1 | 10 | 24 | 3 | 0 | 3 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | Oil | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 9 | 5 | 4 | | 3 | 0 | 3 | | 2 | 0 | 2 |
| Cooking/ Stove | Natural Gas | 48 | 62 | 38 | 22 | 4 | 22 | 3 | 19 | 6 | 22 | 4 | 17 |
| | Electric | 39 | 24 | 9 | 15 | 41 | 19 | 0 | 19 | 26 | 9 | 1 | 8 |
| | Propane | 1 | | | | 0 | | | | 1 | | | |
| | No Preference | | 3 | 1 | 2 | | 3 | 0 | 3 | | 1 | 0 | 1 |
| Clothes Dryer | Natural Gas | 7 | 14 | 2 | 12 | 1 | 14 | 1 | 13 | 2 | 16 | 2 | 14 |
| | Electric | 79 | 61 | 4 | 55 | 44 | 27 | 0 | 27 | 30 | 13 | 0 | 13 |
| | Propane | 0 | | | | 0 | | | | 1 | | | |
| | No Preference | | 14 | 1 | 12 | | 2 | 0 | 2 | | 4 | 0 | 3 |
| Fireplace | Natural Gas | 54 | | | | 3 | | | | 0 | | | |
| | Electric | 7 | | | | 3 | | | | 2 | | | |
| | Propane | 2 | | | | 2 | | | | 2 | | | |
| | Wood | 12 | | | | 13 | | | | 6 | | | |
| Overall | Natural Gas | | 49 | | | | 25 | | | | 18 | | |
| | Electric | | 24 | | | | 14 | | | | 5 | | |
| | Both | | 2 | | | | 2 | | | | 0 | | |
| | Other | | 4 | | | | 0 | | | | 6 | | |
| Sample Size | | 88 | | | | 45 | | | | 33 | | | |
| Population Size | | 40508 | | | | 5792 | | | | 25954 | | | |

| | | West | | | | | | | | | | | |
|------------------------|---------------|-----------|-----------|---------------------|----------------------|-------------|-----------|---------------------|----------------------|---------|-----------|---------------------|----------------------|
| | | Las Vegas | | | | Los Angeles | | | | Phoenix | | | |
| Variable | | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec | Current | Preferred | Preferred Among Gas | Preferred Among Elec |
| Home Heating | Natural Gas | 42 | 48 | 39 | 8 | 52 | 56 | 46 | 6 | 21 | 29 | 17 | 9 |
| | Electric | 14 | 2 | 0 | 2 | 16 | 6 | 1 | 5 | 24 | 14 | 2 | 12 |
| | Propane | 0 | | | | 0 | | | | 0 | | | |
| | Oil | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 5 | 2 | 3 | | 8 | 3 | 5 | | 4 | 1 | 3 |
| Water Heating | Natural Gas | 45 | 46 | 40 | 5 | 65 | 57 | 55 | 0 | 25 | 28 | 22 | 6 |
| | Electric | 11 | 4 | 0 | 4 | 5 | 5 | 3 | 2 | 22 | 14 | 1 | 13 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | Oil | 0 | | | | 0 | | | | 0 | | | |
| | No Preference | | 5 | 3 | 2 | | 8 | 5 | 3 | | 4 | 2 | 2 |
| Cooking/ Stove | Natural Gas | 48 | 43 | 38 | 3 | 62 | 62 | 55 | 5 | 12 | 31 | 11 | 19 |
| | Electric | 7 | 5 | 3 | 2 | 8 | 6 | 4 | 2 | 34 | 13 | 1 | 12 |
| | Propane | 2 | | | | 0 | | | | 0 | | | |
| | No Preference | | 6 | 4 | 2 | | 2 | 1 | 1 | | 2 | 0 | 2 |
| Clothes Dryer | Natural Gas | 38 | 41 | 31 | 9 | 57 | 55 | 49 | 5 | 7 | 21 | 6 | 13 |
| | Electric | 17 | 8 | 2 | 6 | 13 | 8 | 2 | 5 | 39 | 21 | 1 | 20 |
| | Propane | 1 | | | | 0 | | | | 0 | | | |
| | No Preference | | 6 | 4 | 2 | | 7 | 4 | 3 | | 9 | 0 | 6 |
| Fireplace | Natural Gas | 13 | | | | 30 | | | | 5 | | | |
| | Electric | 5 | | | | 1 | | | | 6 | | | |
| | Propane | 0 | | | | 0 | | | | 1 | | | |
| | Wood | 5 | | | | 9 | | | | 6 | | | |
| Overall | Natural Gas | | 40 | | | | 56 | | | | 28 | | |
| | Electric | | 4 | | | | 5 | | | | 12 | | |
| | Both | | 1 | | | | 1 | | | | 0 | | |
| | Other | | 7 | | | | 4 | | | | 3 | | |
| Sample Size | | 57 | | | | 70 | | | | 47 | | | |
| Population Size | | 35743 | | | | 105019 | | | | 59314 | | | |

| Variable | Status | NE | MW | W | S | SE |
|----------------|-----------|----|-----|-----|-----|-----|
| At least 1 Gas | Current | 42 | 121 | 143 | 81 | 97 |
| | Preferred | 57 | 118 | 149 | 105 | 132 |
| All Gas | Current | 1 | 18 | 77 | 14 | 6 |
| | Preferred | 22 | 39 | 106 | 48 | 35 |
| All Electric | Current | 24 | 27 | 31 | 40 | 68 |
| | Preferred | 12 | 28 | 16 | 11 | 28 |
| Sample Size | | 80 | 151 | 177 | 124 | 168 |

C. Glossary

Population of Interest: Who the study is trying to make estimates about.

Sampling Frame: A list of the population from which the samples are drawn.

Simple Random Sample: Sampling method where every combination of households has an equal chance of being included in the sample.

Stratified Random Sample: Sampling method where the population of interest is divided into smaller groups with random samples taken from each group.

Estimate: The prediction of the unknown variable using the sample data.

Margin of Error (ME): The amount of variability above and below the estimate that we believe the unknown variables true value may lie.

Confidence Level: The likelihood that the unknown variables true value will be contained within the ME above and below the estimate.

Significant: When the results observed deviate significantly from a value of interest being used as a comparison.

Simulations: Using a computer to repeatedly compute estimates of the unknown variable to get an estimate.