



Special Report on Price Differential of Gas vs. Electric Homes

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**By Economics & Housing Policy Group
National Association of Home Builders
Washington, DC 20005**

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INTRODUCTION

The Economics and Housing Policy Group of the National Association of Home Builders (NAHB) conducts a monthly survey of its builder members – the Builders’ Economic Council (BEC) survey – in order to produce the Housing Market Index – a leading indicator on the condition of the housing industry. In October 2010, an additional question was included in the BEC survey regarding the sales price of comparable single-family homes with either natural gas heating systems and appliances or only electric heating systems and appliances. A second additional question asked builders whether, in their experience, a home with natural gas equipment sold more quickly than a new home without any such equipment.

The survey questionnaire (Appendix I) was sent electronically to 1,104 builder members of NAHB. Responses have been received from 432 builders, for a response rate of 39 percent. This report analyses responses by the four census regions and by the number of for-sale units started by the firm in 2009.

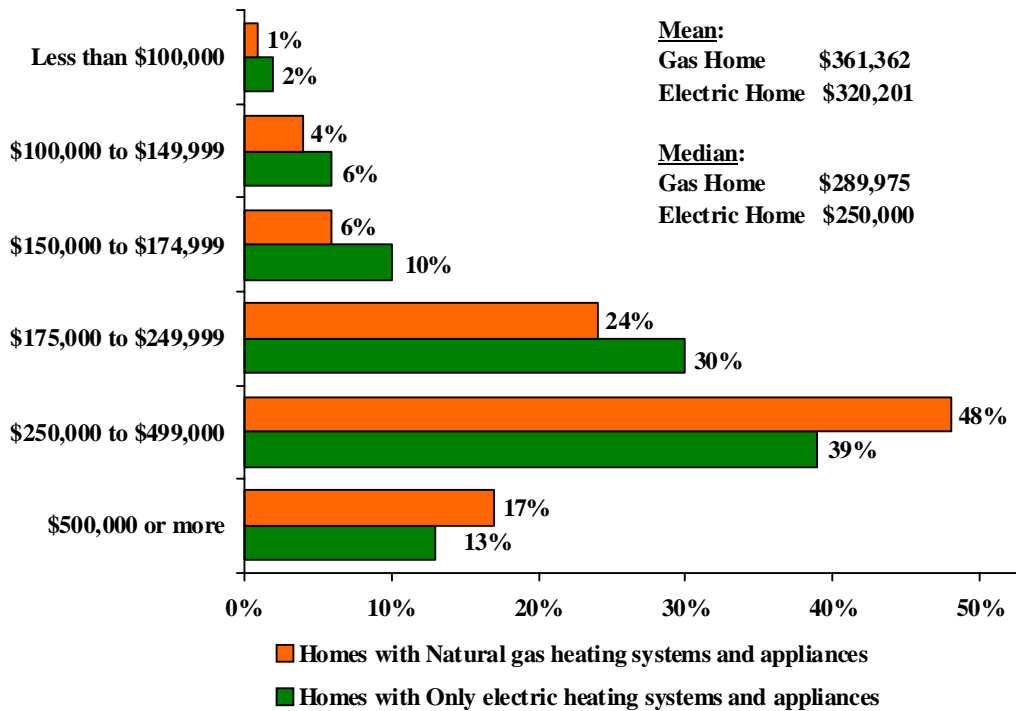
SURVEY FINDINGS

The first question regarding the price for comparable new single-family homes with natural gas equipment (“gas homes”) and/or only electric equipment (“electric homes”) was answered by a total of 180 people, of which 98 reported the price of only one of these two types of homes and 82 reported the prices of both types of homes. The price comparison analysis is done first among all 180 respondents, regardless of whether they reported one or two of the prices asked, and then among only those 82 common respondents who reported prices for both types of homes.

All Respondents

When all respondents are taken into consideration, the average price of a new home with natural gas heating systems and appliances was reported at \$361,362, about 13 percent higher than the average \$320,201 for a home with only electric heating systems and appliances (Exhibit 1). In addition, while nearly two-thirds (65 percent) of the respondents indicated new “gas homes” sold for \$250,000 or more, just over half (52 percent) reported that price level for “electric homes.”

**Exhibit 1. Sales price for comparable gas/electric homes – ALL RESPONDENTS
(Percent of Respondents)**



How much a “gas home” sells for varies significantly by the size of the firm building it, so whereas the average price for this kind of home was reported at \$389,001 by firms starting under 25 units in 2009, it was reported at \$273,883 among those starting 25 to 99 units, and at \$194,000 for those starting 100 or more units (Exhibit 2). Except for the Northeast, “gas homes” on average sold for higher prices than “electric homes” in all regions of the country and across categories of builder size.

**Exhibit 2. Sales price for comparable gas/electric homes By Region and Firm Size
ALL RESPONDENTS
(Percent of Respondents)**

Percent	Total	Region				No. of For-Sale Units Started		
		NE	MW	S	W	<25	25-99	100+
Homes with Natural gas heating systems and appliances								
Less than \$100,000	1	8		1		2		
\$100,000-\$149,999	4		5	5		2	4	20
\$150,000-\$174,999	6	8	16	4		5	11	
\$175,000-\$249,999	24	8	16	28	32	22	30	60
\$250,000-\$499,999	48	54	50	45	48	48	52	20
\$500,000 or more	17	23	13	17	19	21	4	
Mean	\$361,362	\$340,000	\$379,053	\$360,128	\$351,740	\$389,001	\$273,883	\$194,000
Median	\$289,975	\$300,000	\$292,500	\$284,950	\$289,950	\$300,000	\$255,000	\$180,000
Min	\$50,000	\$75,000	\$125,000	\$50,000	\$175,000	\$50,000	\$142,000	\$140,000
Max	\$2,200,000	\$800,000	\$2,000,000	\$2,200,000	\$800,000	\$2,200,000	\$700,000	\$275,000
Responses	160	13	38	78	31	121	27	5
Homes with Only electric heating systems and appliances								
Less than \$100,000	2	11		2		3		
\$100,000-\$149,999	6		16	5		4	7	
\$150,000-\$174,999	10	11	5	13		11	7	
\$175,000-\$249,999	30		21	34	50	27	47	100
\$250,000-\$499,999	39	56	42	37	33	39	40	
\$500,000 or more	13	22	16	10	17	16		
Mean	\$320,201	\$363,333	\$356,774	\$304,151	\$312,871	\$346,387	\$233,623	\$177,938
Median	\$250,000	\$260,000	\$276,000	\$230,000	\$254,225	\$255,000	\$220,000	\$177,938
Min	\$70,000	\$70,000	\$121,000	\$80,000	\$175,000	\$70,000	\$121,000	\$175,000
Max	\$1,500,000	\$800,000	\$1,500,000	\$1,400,000	\$750,000	\$1,500,000	\$375,000	\$180,875
Responses	102	9	19	62	12	79	15	2

When a similar question was asked in the BEC survey in December 2002, the average price for a “gas home” was \$302,922, 45 percent higher than the \$208,754 reported for its only-electric counterpart. As previously mentioned, in October 2010, the average price for a “gas home” was about 13 percent higher than that of an “electric home” (Exhibit 3).

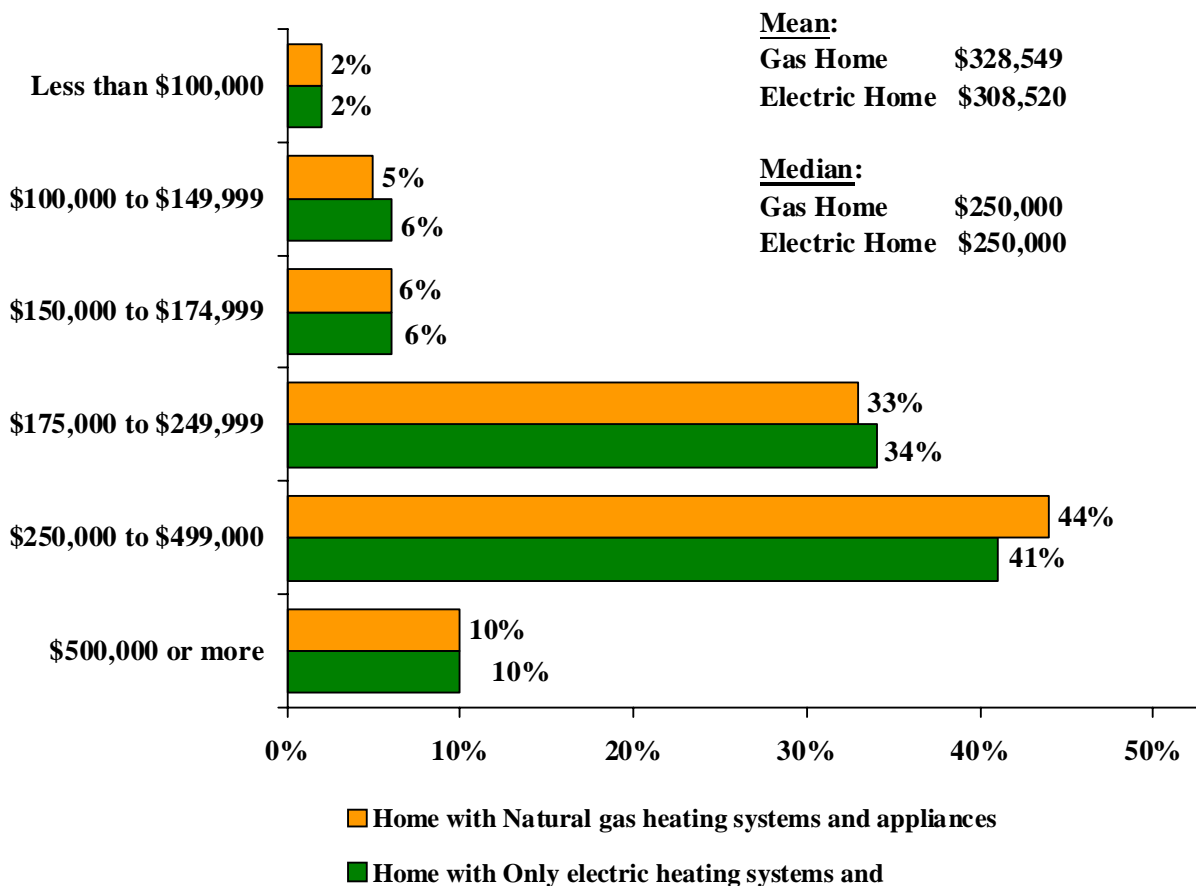
**Exhibit 3. Sales price for comparable gas/electric homes
ALL RESPONDENTS - HISTORY
(Percent of Respondents)**

	Oct. 2010	Dec. 2002
Homes with Natural gas heating systems and appliances		
Less than \$100,000	1	3
\$100,000-\$149,999	4	22
\$150,000-\$174,999	6	8
\$175,000-\$249,999	24	15
\$250,000-\$499,999	48	39
\$500,000 or more	17	14
Mean	\$361,362	\$302,922
Median	\$289,975	\$250,000
Min	\$50,000	\$15,000
Max	\$2,200,000	\$1,200,000
Homes with Only electric heating systems and appliances		
Less than \$100,000	2	8
\$100,000-\$149,999	6	36
\$150,000-\$174,999	10	5
\$175,000-\$249,999	30	8
\$250,000-\$499,999	39	44
\$500,000 or more	13	
Mean	\$320,201	\$208,754
Median	\$250,000	\$179,900
Min	\$70,000	\$20,000
Max	\$1,500,000	\$450,000

Common Respondents

When only common respondents (those reporting prices for both a “gas home” and an “electric home”) are taken into account, the average price of a new home with natural gas heating systems and appliances was reported at \$328,549, about six percent higher than the average \$308,520 for a home with only electric heating systems and appliances (Exhibit 4). Among this subset of respondents, 54 percent reported a typical “gas home” would sell for \$250,000 or more, not much different from the 51 percent who reported a typical “electric home” would sell in that same range.

**Exhibit 4. Sales price for comparable gas/electric homes - COMMON RESPONDENTS
(Percent of Respondents)**



When only common respondents are analyzed by region, results show that the average price of a “gas home” is higher than that of an “electric home” in the Northeast, South, and West, but not in the Midwest (Exhibit 5). The average “gas home” is also more expensive than its all-electrical counterpart if built by a firm starting fewer than 100 units a year. If built by firms starting 100 or more units a year, both types of homes were reported to have about the same average price.

**Exhibit 5. Sales price for comparable gas/electric homes By Region and Firm Size
COMMON RESPONDENTS
(Percent of Respondents)**

Percent	Total	Region				No. of For-Sale Units Started		
		NE	MW	S	W	<25	25-99	100+
Homes with Natural gas heating systems and appliances								
Less than \$100,000	2	13		2		3		
\$100,000-\$149,999	5		12	4		3	8	
\$150,000-\$174,999	6		18	4		5	8	
\$175,000-\$249,999	33	13	29	35	44	32	31	100
\$250,000-\$499,999	44	63	29	46	44	44	54	
\$500,000 or more	10	13	12	8	11	13		
Mean	\$328,549	\$325,625	\$336,588	\$336,023	\$276,106	\$355,165	\$254,758	\$177,500
Median	\$250,000	\$275,000	\$225,000	\$261,000	\$250,000	\$251,500	\$250,000	\$177,500
Min	\$50,000	\$75,000	\$125,000	\$50,000	\$175,000	\$50,000	\$142,000	\$175,000
Max	\$2,200,000	\$800,000	\$1,500,000	\$2,200,000	\$570,000	\$2,200,000	\$400,000	\$180,000
Homes with Only electric heating systems and appliances								
Less than \$100,000	2	13		2		3		
\$100,000-\$149,999	6		18	4		3	8	
\$150,000-\$174,999	6	13	6	6		6	8	
\$175,000-\$249,999	34		24	38	67	32	38	100
\$250,000-\$499,999	41	63	41	42	22	42	46	
\$500,000 or more	10	13	12	8	11	13		
Mean	\$308,520	\$308,750	\$344,041	\$305,760	\$255,939	\$333,285	\$240,335	\$177,938
Median	\$250,000	\$255,000	\$255,000	\$244,000	\$220,000	\$250,000	\$248,500	\$177,938
Min	\$70,000	\$70,000	\$121,000	\$80,000	\$175,000	\$70,000	\$121,000	\$175,000
Max	\$1,500,000	\$750,000	\$1,500,000	\$1,400,000	\$510,000	\$1,500,000	\$375,000	\$180,875
Responses	82	8	17	48	9	62	13	2

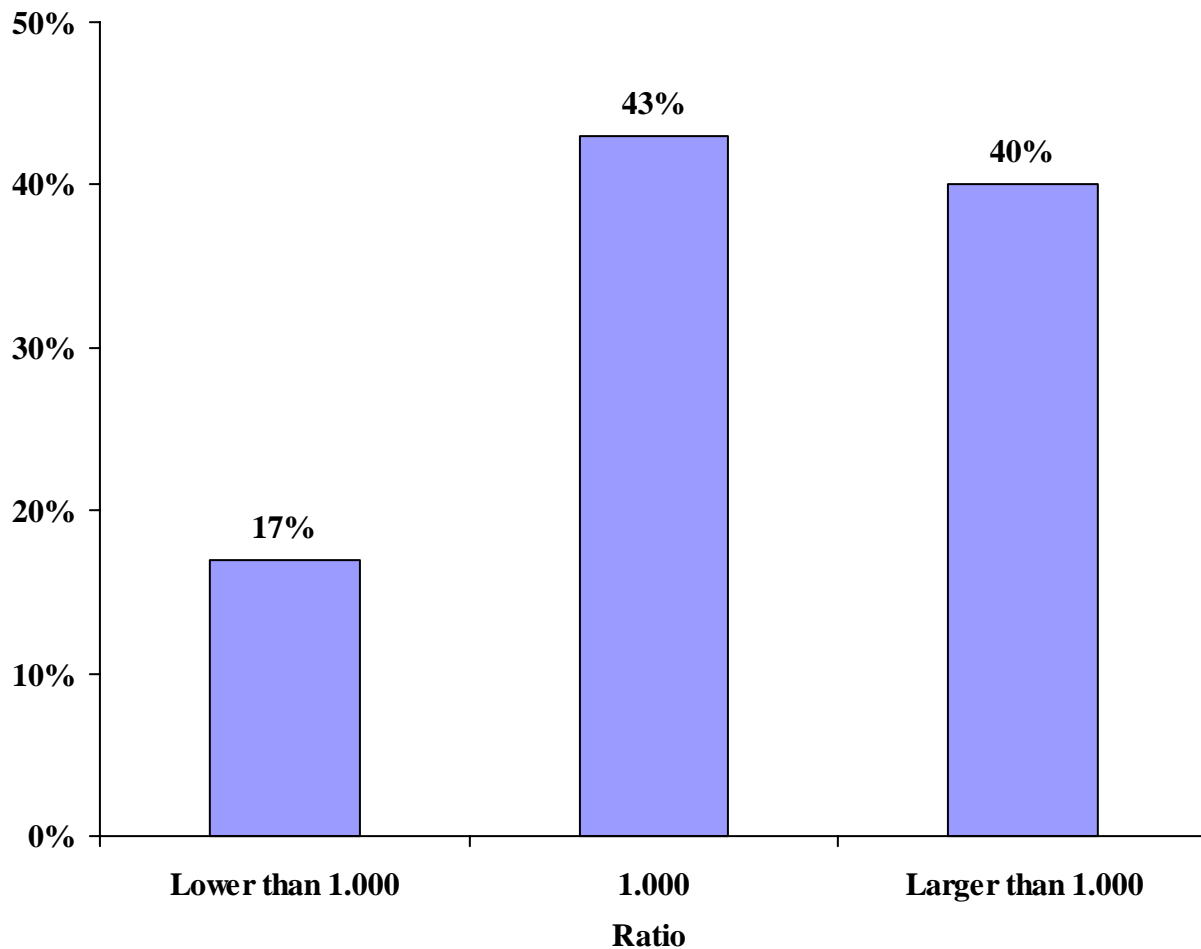
Among common respondents to the December 2002 survey, the average price for a “gas home” was \$220,800, about five percent higher than the \$211,011 reported for its only-electric counterpart. As previously mentioned, in October 2010, the average price for a “gas home” cited by common respondents was about 6 percent higher than that of an “electric home” (Exhibit 6).

**Exhibit 6. Sales price for comparable gas/electric homes
COMMON RESPONDENTS - HISTORY
(Percent of Respondents)**

	Oct. 2010	Dec. 2002
Homes with Natural gas heating systems and appliances		
Less than \$100,000	2	3
\$100,000-\$149,999	5	33
\$150,000-\$174,999	6	8
\$175,000-\$249,999	33	11
\$250,000-\$499,999	44	44
\$500,000 or more	10	
Mean	\$328,549	\$220,800
Median	\$250,000	\$186,450
Min	\$50,000	\$40,000
Max	\$2,200,000	\$450,000
Homes with Only electric heating systems and appliances		
Less than \$100,000	2	6
\$100,000-\$149,999	6	36
\$150,000-\$174,999	6	6
\$175,000-\$249,999	34	8
\$250,000-\$499,999	41	44
\$500,000 or more	10	
Mean	\$308,520	\$211,011
Median	\$250,000	\$179,950
Min	\$70,000	\$20,000
Max	\$1,500,000	\$450,000

As Exhibit 7 shows, about 43 percent of common respondents reported identical sales prices for both a “gas home” and an “electrical home” (for a sales price ratio of 1.0). About 17 percent reported a lower price for “gas homes” than for “electrical homes,” which produced sales price ratios lower than 1.0. Meanwhile, 40 percent reported higher sales prices for “gas homes,” producing price ratios larger than 1.0 (Exhibit 8).

**Exhibit 7. Ratio of sales price of homes with gas versus those with electric equipment –
q1a/q1b
(Percent of Common Respondents)**



**Exhibit 8. Ratio of sales price of homes with gas versus those with electric equipment -
q1a/q1b
By Region and Firm Size**

Percent	Total	Region				No. of For-Sale Units Started		
		NE	MW	S	W	<25	25-99	100+
0.6250	1.2			2.1		1.6		
0.7143	2.4		11.8			3.2		
0.8000	1.2		5.9			1.6		
0.9333	1.2			2.1		1.6		
0.9375	1.2		5.9			1.6		
0.9412	1.2		5.9			1.6		
0.9487	1.2		5.9				7.7	
0.9574	1.2		5.9			1.6		
0.9921	1.2		5.9			1.6		
0.9950	1.2			2.1		1.6		
0.9952	1.2			2.1				50.0
0.9964	1.2		5.9			1.6		
0.9979	1.2		5.9			1.6		
1.0000	42.7	37.5	17.7	54.2	33.3	45.2	46.2	50.0
1.0050	1.2			2.1		1.6		
1.0054	1.2		5.9					
1.0060	1.2				11.1		7.7	
1.0084	1.2			2.1		1.6		
1.0120	1.2			2.1		1.6		
1.0128	1.2			2.1		1.6		
1.0150	1.2			2.1		1.6		
1.0156	1.2			2.1		1.6		
1.0167	1.2			2.1		1.6		
1.0169	1.2				11.1		7.7	
1.0256	1.2	12.5				1.6		
1.0279	1.2			2.1				
1.0330	1.2			2.1		1.6		
1.0345	1.2		5.9					
1.0465	1.2				11.1			
1.0667	1.2	12.5				1.6		
1.0714	1.2	12.5				1.6		
1.0769	1.2			2.1		1.6		
1.1154	1.2				11.1		7.7	
1.1176	1.2				11.1	1.6		
1.1538	1.2	12.5					7.7	
1.1667	2.4			4.2		3.2		
1.1736	1.2		5.9				7.7	
1.1875	1.2			2.1		1.6		
1.2000	2.4	12.5	5.9			1.6		
1.3333	1.2			2.1			7.7	
1.4063	1.2			2.1		1.6		
1.4286	1.2				11.1	1.6		
1.5028	1.2			2.1		1.6		
1.5714	1.2			2.1		1.6		
2.0556	1.2			2.1		1.6		
Mean	1.0466	1.0647	0.9655	1.0659	1.0812	1.0446	1.0575	0.9976
Median	1.0000	1.0462	0.9964	1.0000	1.0169	1.0000	1.0000	0.9976
Min	0.6250	1.0000	0.7143	0.6250	1.0000	0.6250	0.9487	0.9952
Max	2.0556	1.2000	1.2000	2.0556	1.4286	2.0556	1.3333	1.0000
Responses	82	8	17	48	9	62	13	2

Both the average and the median ratio of gas home prices to electric home prices are very similar in 2010 to their 2002 levels. In 2010, however, the minimum ratio fell to 0.625 from 0.938 in 2002, while the maximum ratio rose to 2.056 from 1.304 in 2002 (Exhibit 9).

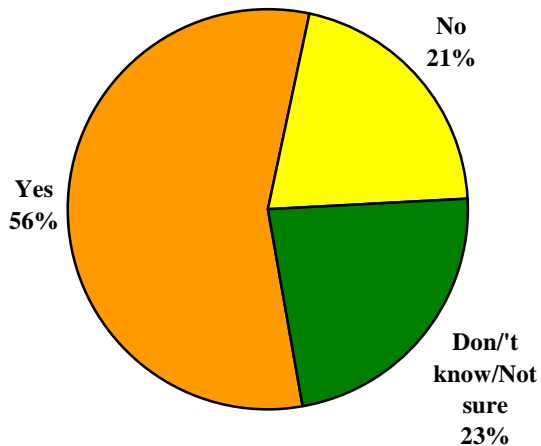
Exhibit 9. Ratio of sales price of homes with gas versus those with electric equipment HISTORY

	Oct. 2010	Dec. 2002
Mean	1.047	1.040
Median	1.000	1.000
Min	0.625	0.938
Max	2.056	1.304

Sales Pace

When asked whether a new home with natural gas equipment (e.g. heater, range, water heater, dryer or fireplace) generally sells more quickly than a new home without any of this equipment, 56 percent of respondents indicated that in fact that was the case, about 21 percent said “no,” and 23 percent said “don’t know/not sure” (Exhibit 10).

Exhibit 10. Does a new home with natural gas equipment (e.g. heater, range, water heater, dryer or fireplace) generally sell more quickly than a new home without any natural gas equipment? (Percent of Respondents)



There is regional variation in whether a “gas home” sells faster than one without gas equipment. In the Midwest, for example, almost three-fourths (73 percent) of respondents reported that such a home in fact does sell more quickly, compared to 42 percent in the South, 55 percent in the Northeast, and a similar 68 percent in the West. Across builder size categories, 69 percent of respondents whose firms built 100 or more units a year say these homes do sell faster, but the share drops to 62 percent if building 25 to 99 units, and to 54 percent if building less than 25 units (Exhibit 11).

**Exhibit 11. Does a new home with natural gas equipment (e.g. heater, range, water heater, dryer or fireplace) generally sell more quickly than a new home without any natural gas equipment?
By Region and Firm Size
(Percent of Respondents)**

Percent	Total	Region				No. of For-Sale Units Started		
		NE	MW	S	W	<25	25-99	100+
Yes	56	55	73	42	68	54	62	69
No	21	25	9	30	12	20	24	23
Don't know/Not sure	23	20	19	28	20	26	14	8
Responses	412	44	102	191	75	330	50	13

Appendix I: BEC Special Questions for October 2010

Q1. In the typical, new single-family home that you built during the past 12 months, please indicate the sales price for comparable homes with:

a. Natural gas heating systems and appliances: \$_____

b. Only electric heating systems and appliances: \$_____

Q2. In your experience, does a new home with natural gas equipment (e.g. heater, range, water heater, dryer or fireplace) generally sell more quickly than a new home without any natural gas equipment?

Yes

No

Don't know/Not sure

THANK YOU