

---

# Central Hudson Residential Energy Efficiency Products & Rate Options Report

---

October 22, 2007



# Table of Contents

---

Background and Objectives	3
Research Methodology	4
Executive Summary	6
Detailed Findings	9
Energy Efficiency Opinions	10
Appliance Rebates	13
High Efficiency HVAC Systems	16
Home Energy Evaluations	21
Compact Fluorescents	24
Supply Rate Options	26
Respondent Profile	27

# Background & Objectives

---

Central Hudson is interested in getting a clear assessment of their residential customers' propensity to adopt and use additional products and services that Central Hudson is looking to add to its existing service offerings. To help in this assessment, Central Hudson has commissioned TRC to conduct a series of focus groups and a telephone survey among 1,200 residential customers.

The objectives of this research are:

- Develop a clear understanding of the Central Hudson potential market for energy efficiency programs.
- Assess the existing energy customers' overall decision making process for these products and services.
- Gauge customer reaction to specific customer programs.
- Identify any market issues or behaviors that may become potential problems in the regulated market.
- Analyze the data and report the results in a manner that supports the management of the product/service development process.

# Research Methodology

In order to obtain an initial sense of the opinions of residential customers regarding concepts, products and services relating to energy efficiency, Central Hudson contracted with TRC to conduct six focus groups.

Participants were selected from Central Hudson's customer database. Once contacted (by phone), participants were further screened to ensure that they were familiar with their electric service, and actively involved in energy-related decisions in the home.

Efforts were made to ensure a mix of gender and age among the participants, and income levels were obtained to match the income criteria shown below.

The table below contains the date, location and participant profile for each of the focus groups.

	<u>July 24, 2007</u>	<u>July 25, 2007</u>	<u>July 26, 2007</u>
	North - Kingston	Central - Poughkeepsie	South - Fishkill
6:00 PM	Lower/Middle Income	Middle/Upper Income	Lower/Middle Income
8:00 PM	Middle/Upper Income	Lower/Middle Income	Middle/Upper Income
(Lower/Middle=\$40,000 to \$75,000 - Middle/Upper=over \$75,000)			

The information obtained during the focus groups was used as the foundation for the continued research conducted in the telephone interviews. Several products and services were found to have lower relative interest to customers, and were excluded from the interviews, and ultimately from the interim program design. Those items were:

- \* Direct Load Control
- \* Programmable Thermostats
- \* Kiosks and/or Mall Stores
- \* Rooftop Solar Panels
- \* Remote Energy Monitors
- \* LED Lighting

# Research Methodology

---

For the quantitative aspect of the research, Central Hudson provided TRC with a list of current customers. TRC conducted 1,202 random telephone interviews between August 29 and September 12, 2007.

To qualify for participation, respondents confirmed that:

- Their household is a customer of Central Hudson
- They are a decision-maker for purchasing major household appliances
- They are familiar with their Central Hudson electric bill

The margin of error associated with the results at the 95% confidence interval are:

- Total n=1,202 (+/-2.8%)
- Lower income n=345 (+/-5.3%)

Customers were often asked to express their opinions using a 10-point scale, with "1" meaning the lowest possible score and "10" meaning the highest possible score.

- Top-3-Box is an "8", "9", or "10"
- Middle-4-Box is a "4", "5", "6", or "7"
- Bottom-3-Box is a "1", "2" or "3"

Percents have been rounded to the nearest whole number.

# Executive Summary

---

## **Energy Efficiency Opinions**

- Almost all customers believe energy efficiency is important (99%), and many have taken measures in their homes to make them more energy efficient (84%).
- Customers feel that Central Hudson should be the organization to offer energy efficiency programs by nearly 5-to-1 over NY State Government, and more than 3-to-1 over the Federal Government a private company.
- Slightly over a third of customers are aware of NYSERDA or NY Energy \$mart<sup>sm</sup> (34%). Among those that are aware, only 13% (4.4% of the total) have participated in an energy efficiency program offered by NYSERDA.

## **Appliance Rebates**

- When asked about the idea of Central Hudson offering a rebate program to help pay for the cost of buying an energy efficient appliance, most customers agree it is a great idea (80%). However, when actually presented with specific rebate offers for specific appliances, only around 4 in 10 indicated that they are likely to participate in the program as described.
- To alert customers of the rebate program, a bill insert (55%) and a separate letter (45%) are the top first and second combined mentions by customers.

## **High Efficiency Systems**

- Thirty percent of customers surveyed have central air conditioning and 7% a heat pump.
- Among those that do have central air conditioning or a heat pump, not very many are likely to replace their system with a high efficiency system (27%). Even when presented with a rebate offer (28%) and a lower finance offer (26%), likelihood to replace their systems does not increase.
- Customers who have natural gas are slightly more likely to purchase a highly efficient gas-fired boiler or furnace if offered a rebate to help offset the cost (38%).

# Executive Summary

---

## **Home Energy Evaluations**

- Over a third (37%) of customers would be likely to go to Central Hudson's website to perform a self-administered home energy evaluation.
- Slightly more customers (39%) would be likely to have an in-home energy evaluation done by Central Hudson.
- A bill insert (67%) and personal letter (58%), are mentioned most frequently by customers for how Central Hudson could alert them that home energy evaluations were available.

## **Compact Fluorescents**

- Customers are more likely to purchase a package of compact fluorescent bulbs if given a coupon from Central Hudson (76%) rather than being offered a mail-in rebate (66%).

## **Supply Rate Options**

- Customers were randomly read one of three supply rate options and then asked their likelihood to switch from their current supply charge to the new supply rate options just described to them. Those that were presented with the Time-of-Use description were the most likely to switch (32%).
- Customers presented with Real-Time (18%) and Fixed Rate (13%) options were not very interested in switching from their current supply charge.

# Executive Summary

## Key Considerations

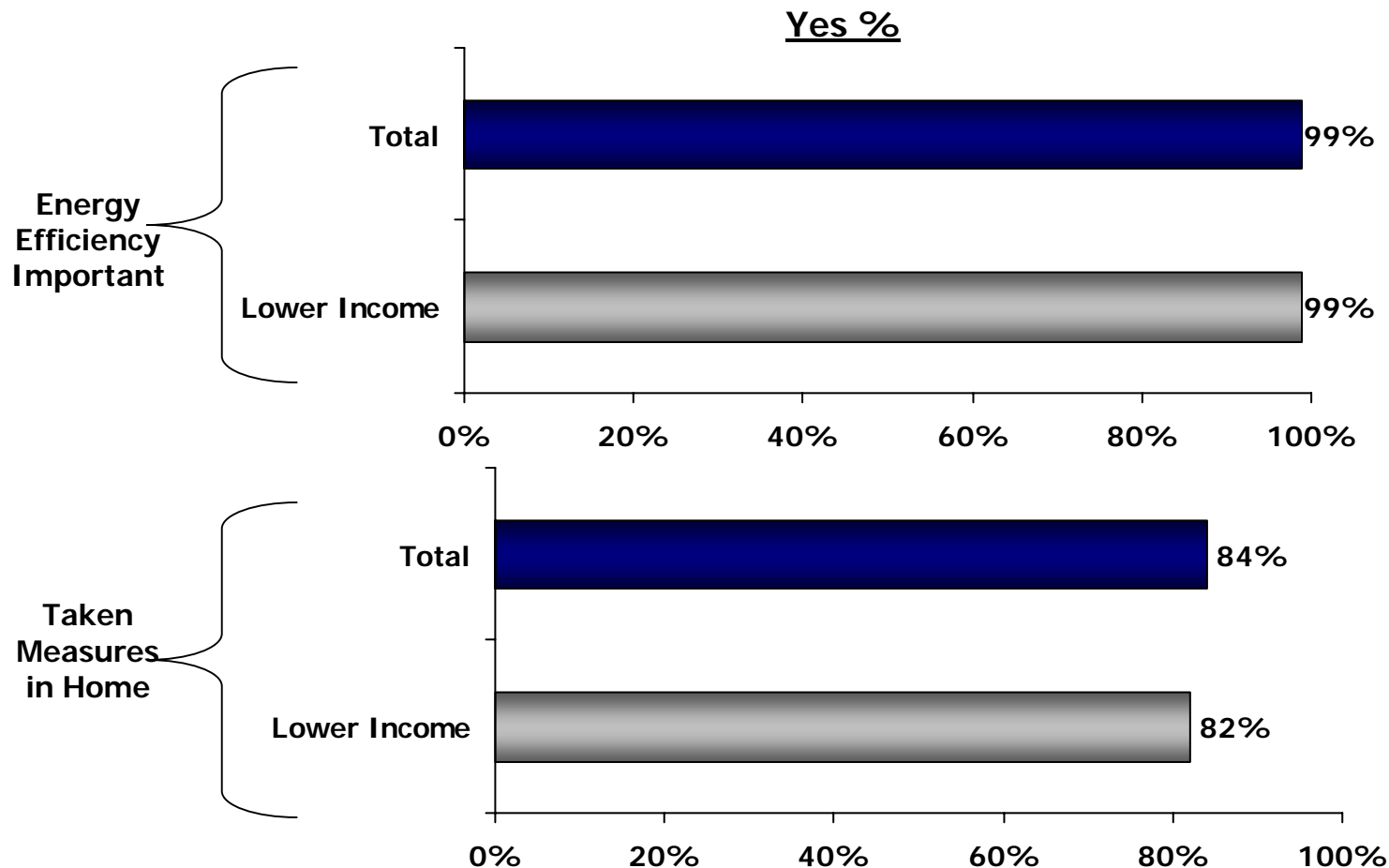
- Customers surveyed expressed a clear preference for Central Hudson to provide energy efficiency programs.
- Although many respondents felt that they have taken some measures to make their homes energy efficient, most limited their efforts to lighting and some energy efficient appliances. Active promotion by Central Hudson with residential customers could stimulate energy efficiency measures that have an even greater impact on electric use.
- At the rebate levels specified, a Central Hudson rebate program for energy efficient appliances can impact the purchase decision for some customers.
- Since respondents indicated a clear preference to replace appliances upon failure, rebate program awareness and familiarity will need to be created prior to the appliance failure. Regular reinforcement with bill messages and inserts may be effective means of reaching potential participants.
- For high-efficiency HVAC systems, surveyed customers' interest maxed out at 31% at the \$250 rebate level. Market stimulation may need the development of a simple, yet comprehensive calculation of the value proposition, including the purchase price differential, rebate, monthly bill savings, and maintenance as well as features as compared to standard efficiency alternatives. Effective and timely marketing will be needed to supplement this effort.
- Home energy evaluations could also be effective on several fronts:
  - Customers surveyed looked to Central Hudson as a trusted and expert source of information and technical advice. A staged approach of web and in-home evaluations can address both the computer savvy and non-computer literate portions of the customer population.
  - The evaluations could also be used to strengthen and “personalize” the relationship with the residential customers. The mix of web-based and in-home evaluations have a distinct balance of cost and benefit.

---

# Detailed Findings

# Energy Efficiency Opinions

- The majority of customers believe energy efficiency in the home is important and have taken some measures to make their home more energy efficient.



## Focus Group Insights

Steps taken include:

- Replacing light bulbs,
- Purchasing energy efficient appliances,
- Installing insulation in older dwellings.
- Changing some behaviors that consume energy

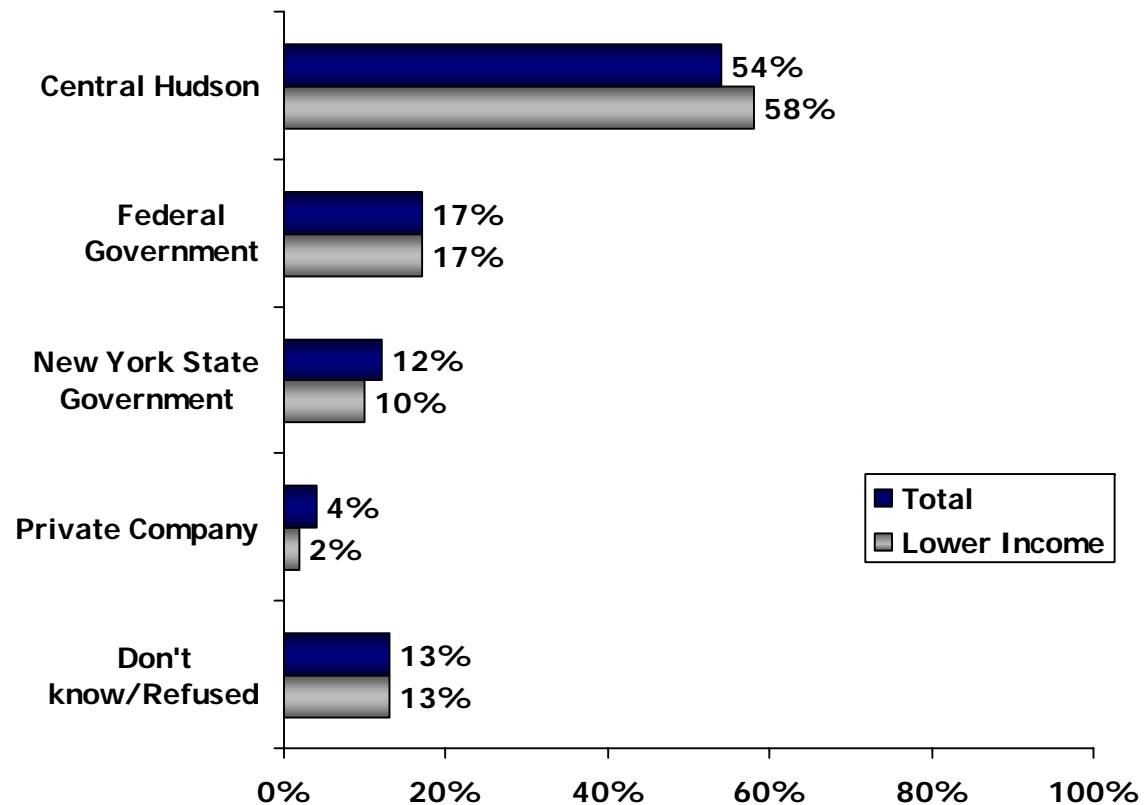
Q1: Do you believe energy efficiency in the home is important?  
 Q2: Have you take any measures in your home to make it more energy efficient?  
 (Base=Total Respondents="TR")



# Energy Efficiency Opinions

- More than three times as many customers indicate energy efficiency programs should be offered by Central Hudson than by any other entity.
- Only 17% think these types of programs should be offered by the Federal Government and 12% by the New York State Government. Only 4% think a private company should offer these programs.

## Offer Energy Efficiency Programs

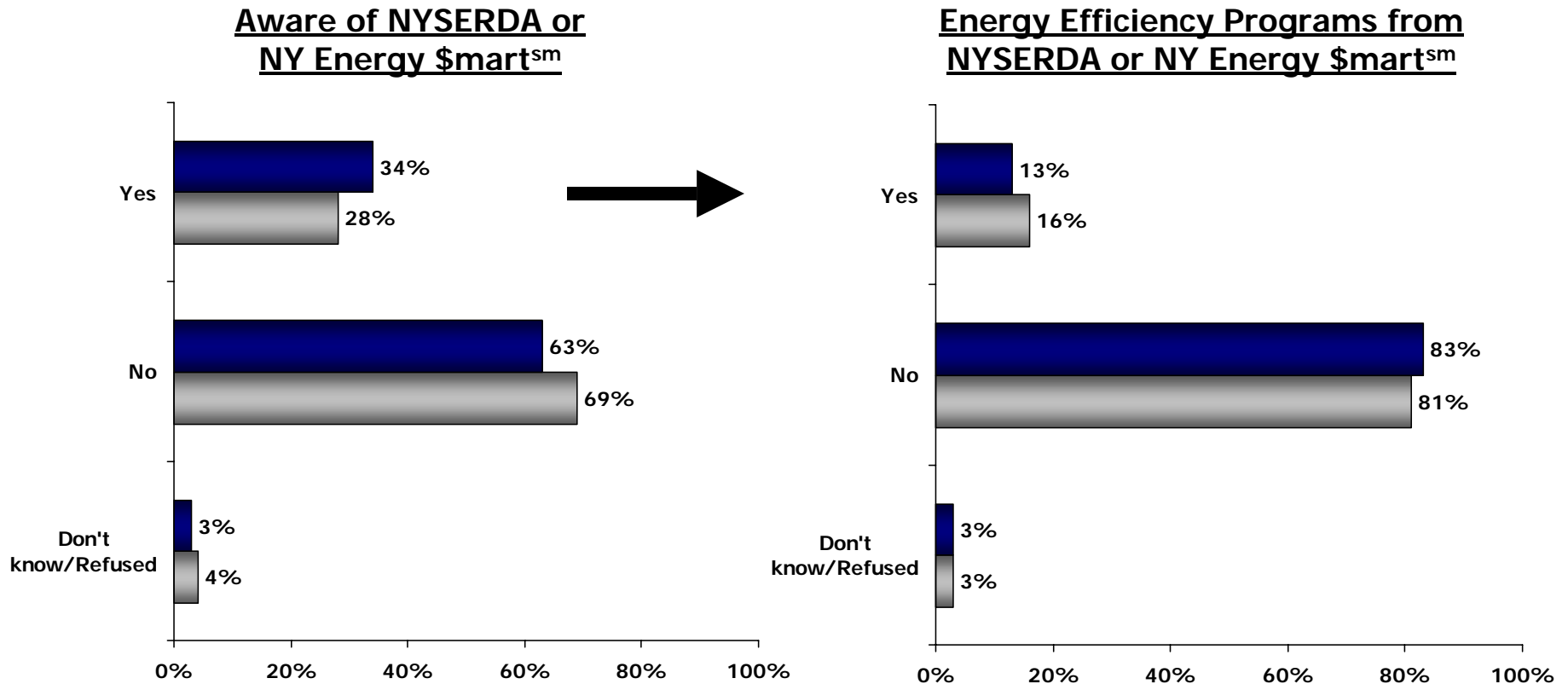


Q3: In your opinion, who should offer these types of energy efficiency programs to customers?  
(Base=TR)



# Energy Efficiency Opinions

- Only about a third of customers are aware of NYSERDA or NY Energy \$mart<sup>sm</sup>.
- Among those who are aware, only 13% (4.4% of the total population) have participated in an energy efficiency program offered by NYSERDA.



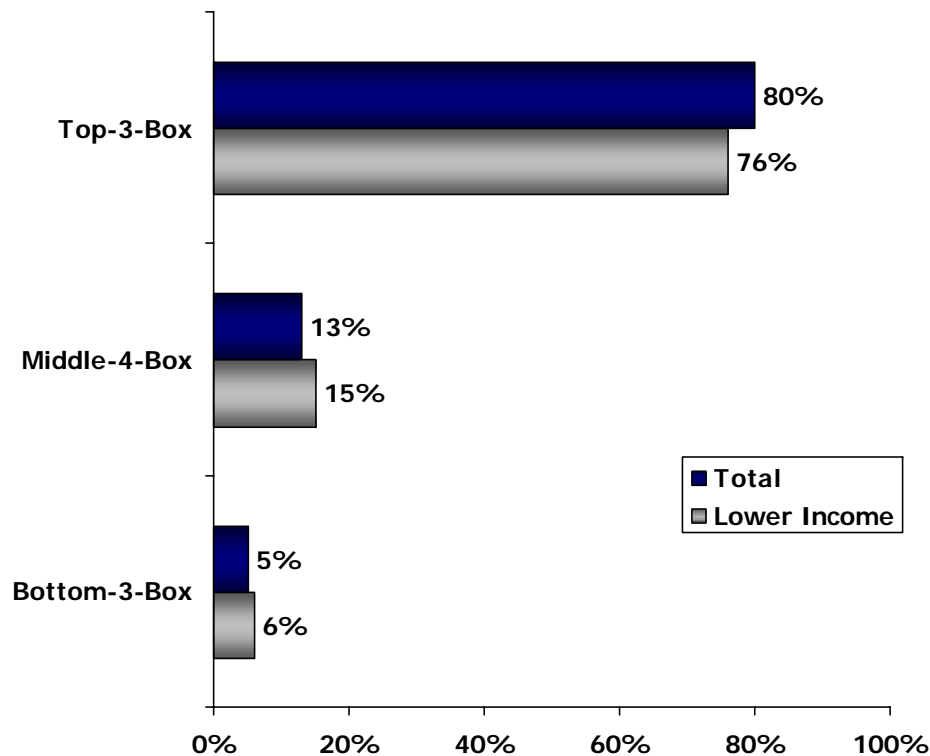
Q3a: Are you aware of NYSERDA, the New York Energy Research and Development Authority or New York Energy \$mart<sup>sm</sup>? (Base=TR)  
 Q3b: Have you participated in an energy efficiency program from NYSERDA or New York Energy \$mart<sup>sm</sup> for your home? (Base=Aware of NYSERDA or New York Energy \$mart<sup>sm</sup>)  
 Total n=405 (+/-4.9%, Lower income n=95 (+/-10.1%))



# Appliance Rebates

- Most customers agree it is a great idea for Central Hudson to offer a rebate program to help pay for the cost of buying an energy efficient appliance.

## Offer Rebate Program for Appliances



## Focus Group Insights

- The reactions to the Rebates were strongly positive.
- The rebates were considered a win-win.
- Discussions focused on rebate levels, how to make buyers aware of the rebates, and making the process as hassle-free as possible.

Q4: Now, using a scale from 1 to 10 where 1 means not a good idea at all and 10 means that it is a great idea, how would you rate your feelings about Central Hudson offering a rebate program that would help pay for the cost of buying an energy efficient appliance? (Base=TR)

# Appliance Rebates

- Customers were randomly asked about one of three rebate offers for each appliance. Despite high interest in the program, when actually presented with the rebate amounts, roughly 4 in 10 customers are likely to participate in the program overall as described.
- As one might expect, as the rebate amount increases likelihood to participate increases, relative to those who expressed interest prior to knowing the amount.

## Top-3-Box Scores (8,9 or 10)

	Total	Rebate 1 (A)	Rebate 2 (B)	Rebate 3 (C)
Refrigerator (\$750)	44%	38% (\$25)	44% (\$35)	50% <sup>A</sup> (\$50)
Clothes Washer (\$500)	43%	36% (\$25)	43% (\$35)	52% <sup>AB</sup> (\$50)
Dehumidifier (\$175)	37%	33% (\$15)	37% (\$20)	41% <sup>A</sup> (\$25)
Freezer (\$500)	37%	34% (\$25)	35% (\$35)	41% (\$50)
Window Air Conditioner (\$400)	31%	26% (\$20)	32% (\$25)	35% <sup>A</sup> (\$35)

## Focus Group Insights

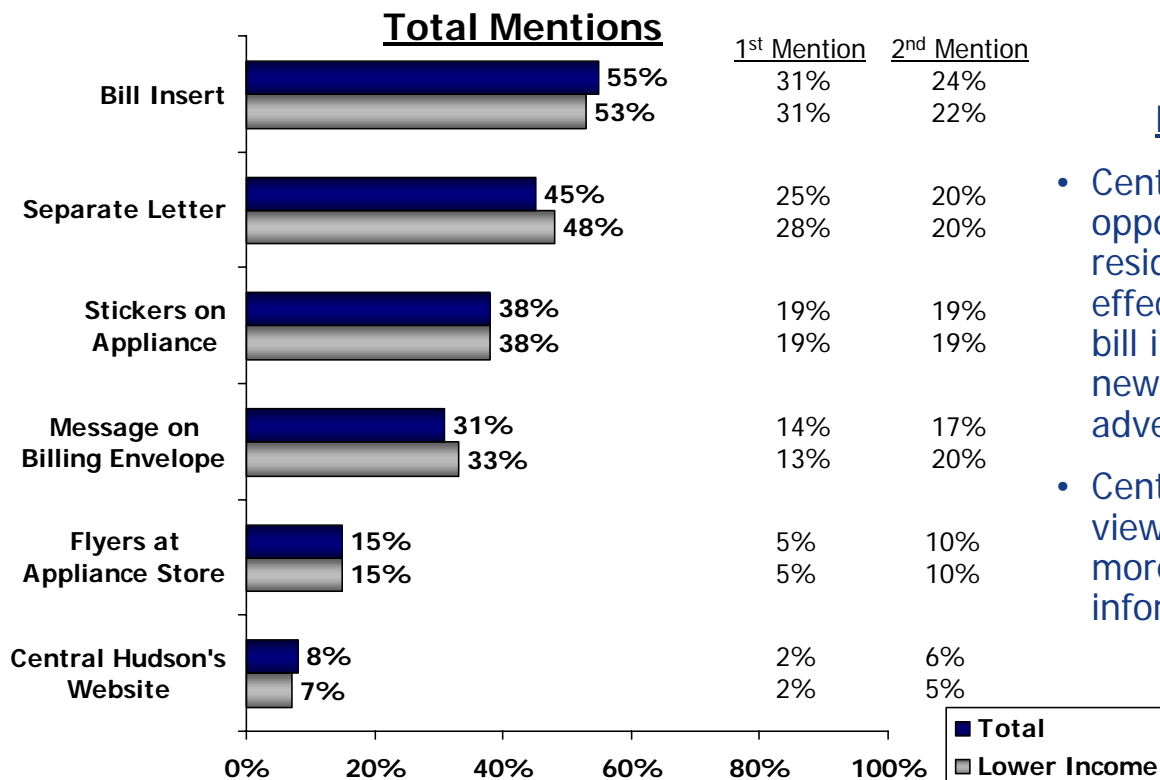
- Regardless of rebate level, most participants expressed that if the appliance still worked, they would like the choice to either give the old unit to another family member or keep it in the garage or basement for parties.
- Although a universal theme, stronger feelings were expressed by lower income groups to have a choice to keep the old appliance.

Q5: Using a 10-point scale, where "1" means not at all likely and "10" means extremely likely, and you can use any number in-between, tell me how likely you'd be to participate in this rebate program if you were in the market for the appliance I mention. (Base: Rebate 1 n=400 (+/-4.9%); Rebate 2 n=402 (+/-4.9%); Rebate 3 n=400 (+/-4.9%))  
Letter indicates a discernibly higher value compared to group identified by that letter.



# Appliance Rebates

- Customers indicate the best way for Central Hudson to make them aware of the rebate program would be to include a message in the bill insert or send a separate letter. A message on the billing envelope can also be a cost effective way to make customers aware of appliance rebates.
- Another point in the appliance purchase process, the point of sale, is another way to inform customers of rebates. Methods include stickers on the appliance (similar to the yellow energy use comparison) or flyers at the store.



## Focus Group Insights

- Central Hudson has significant opportunities to touch the residential customer through effective use of the bimonthly bill, bill inserts, free standing newspaper inserts and electronic advertising.
- Central Hudson is generally viewed as a less biased and a more expert source of information.

Q6a: Which of the following would be the best way for Central Hudson to make you aware that the rebate was available to you and give you the details of the rebate program?

Q6b: And your second choice?

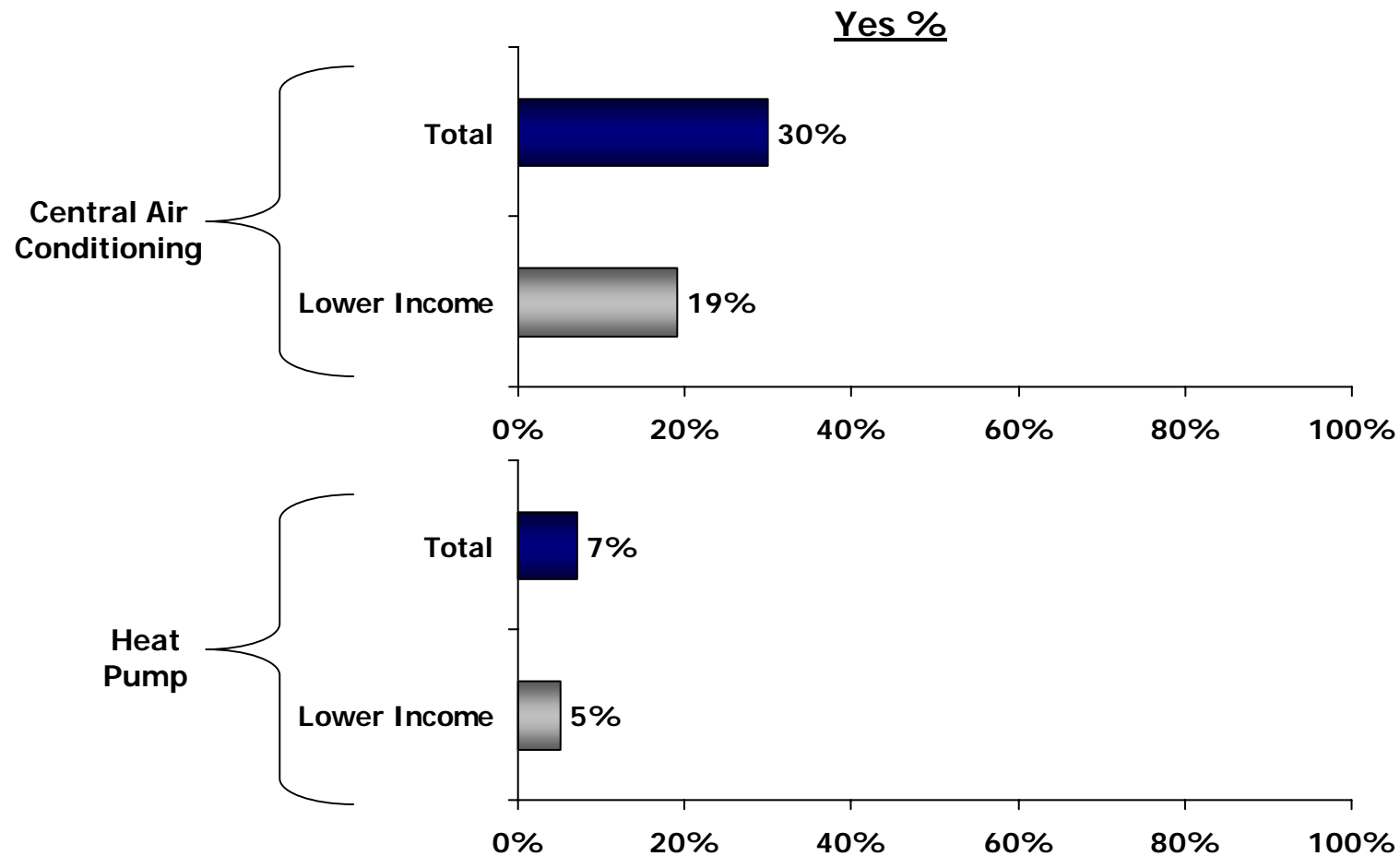
(Base=TR)

Total mentions equals the sum of first and second mentions.



# High Efficiency HVAC Systems

- One third of customers have central air conditioning and 7% have a heat pump in their home.

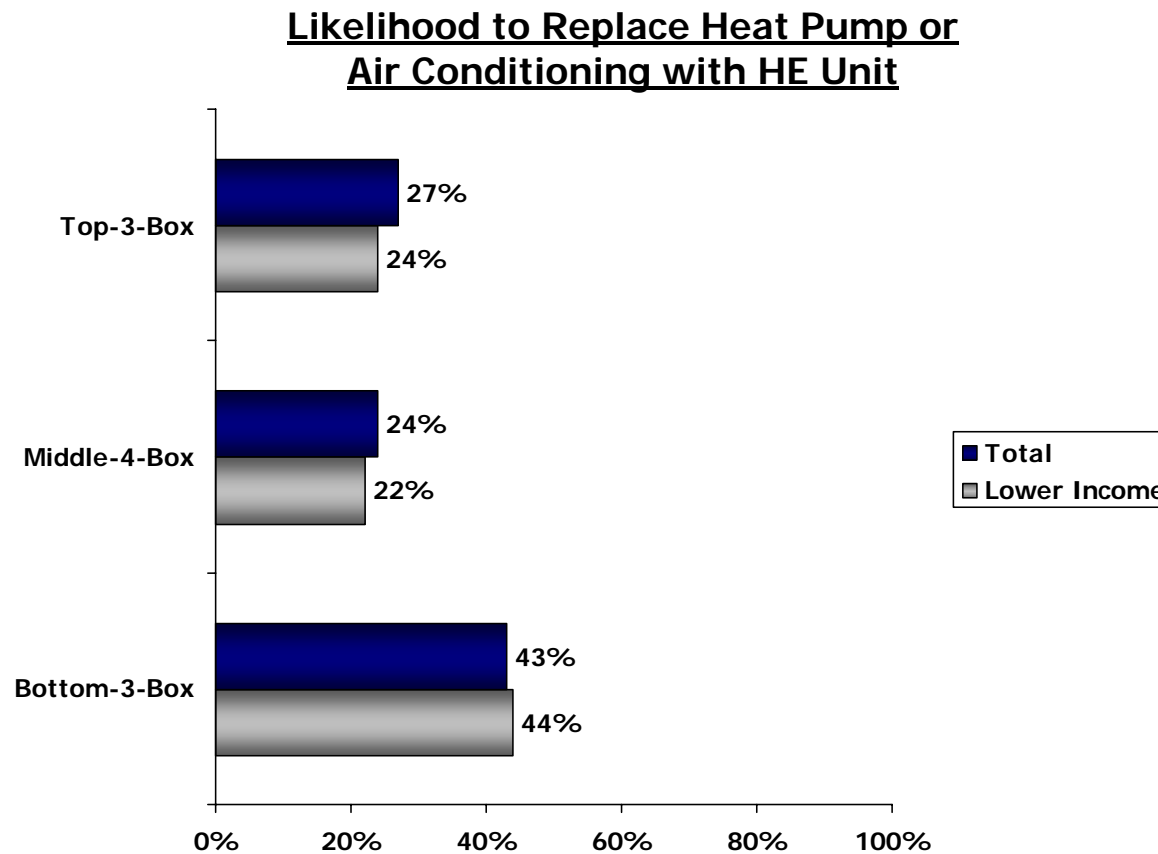


Q7a: In your home, do you have Central air conditioning?  
Q7b: In your home, do you have a heat pump?  
(Base=TR)



# High Efficiency HVAC Systems

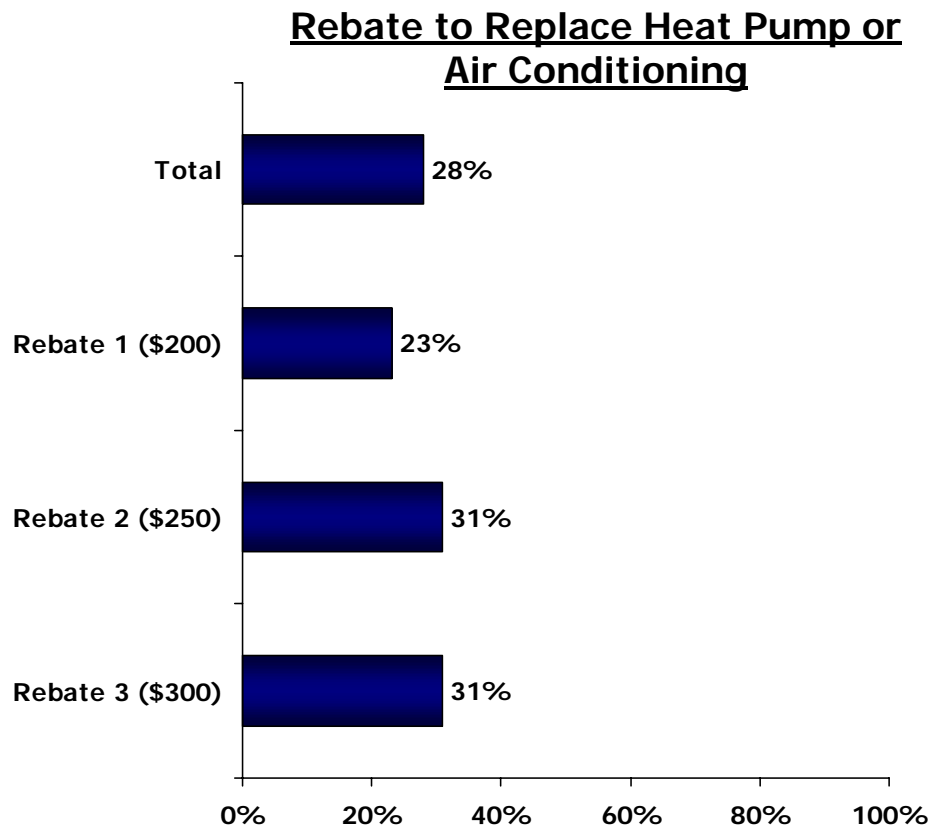
- Among customers who have a heat pump or central air conditioning, likelihood to replace the system with a high efficiency system based solely on the level of the energy bill savings is relatively low.



Q8: Using the same 10-point scale, where "1" means not at all likely and "10" means extremely likely, how likely would you be to replace your current heat pump or air conditioning with a high-efficiency system, based on that level of savings (20%) on your electric bill? (Base=Have central air conditioning or heat pump, Total n=391 (+/-5.0%), Lower income n=78 (+/-11.1%))

# High Efficiency HVAC Systems

- Customers who have a heat pump or central air conditioning were randomly asked about one of three rebate offers. Overall, interest is still relatively low and is only marginally different from the interest level based solely on buying the high efficiency HVAC for the energy bill savings alone.



## Focus Group Insights

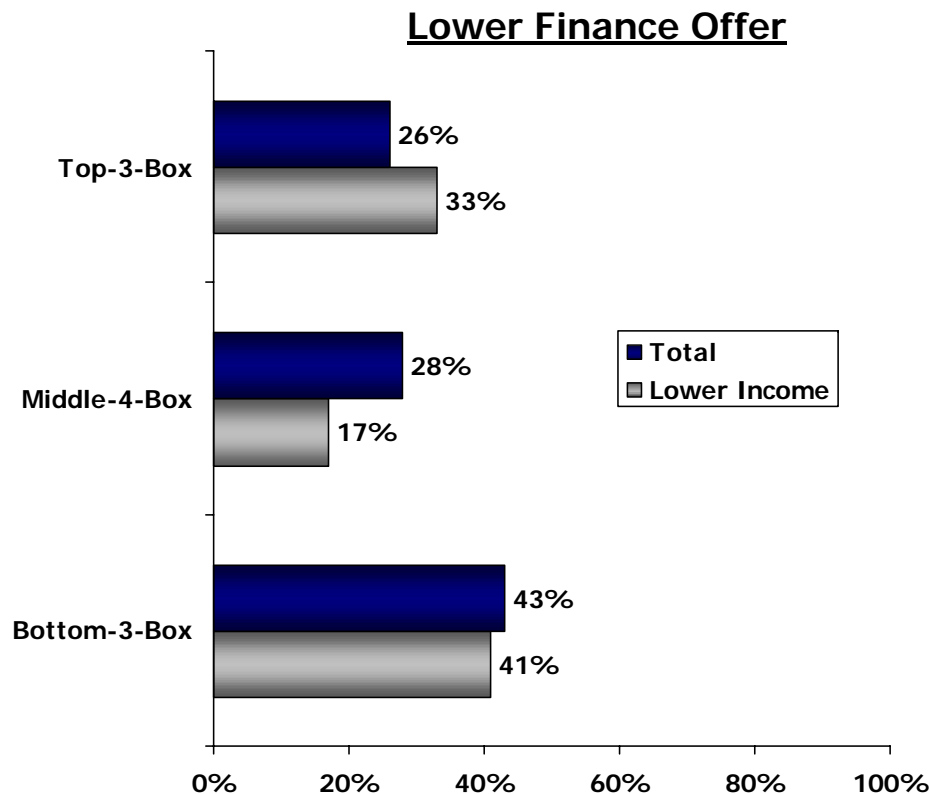
- When asked what it would take to replace their existing air conditioning systems with a high efficiency system, the level of annual energy cost savings required were rather significant with most above \$500 per year.

Q9: If Central Hudson were to offer a rebate of (\$200/\$250/\$300) on your up-front installed cost of that same \$5,000 unit, how likely would you now be to replace your current heating or air conditioning with a high energy efficiency system? (Base=Have central air conditioning or heat pump, Total n=391 (+/-5.0%), Lower income n=78 (+/-11.1%))



# High Efficiency HVAC Systems

- These same customers were then presented with a lower finance offer as an incentive to replace their current heat pump or central air conditioning with a high-efficiency system. Again, likelihood to replace their system remains comparable to that for energy bill savings or rebates. The finance concept was slightly more appealing to lower income customers.



## Focus Group Insights

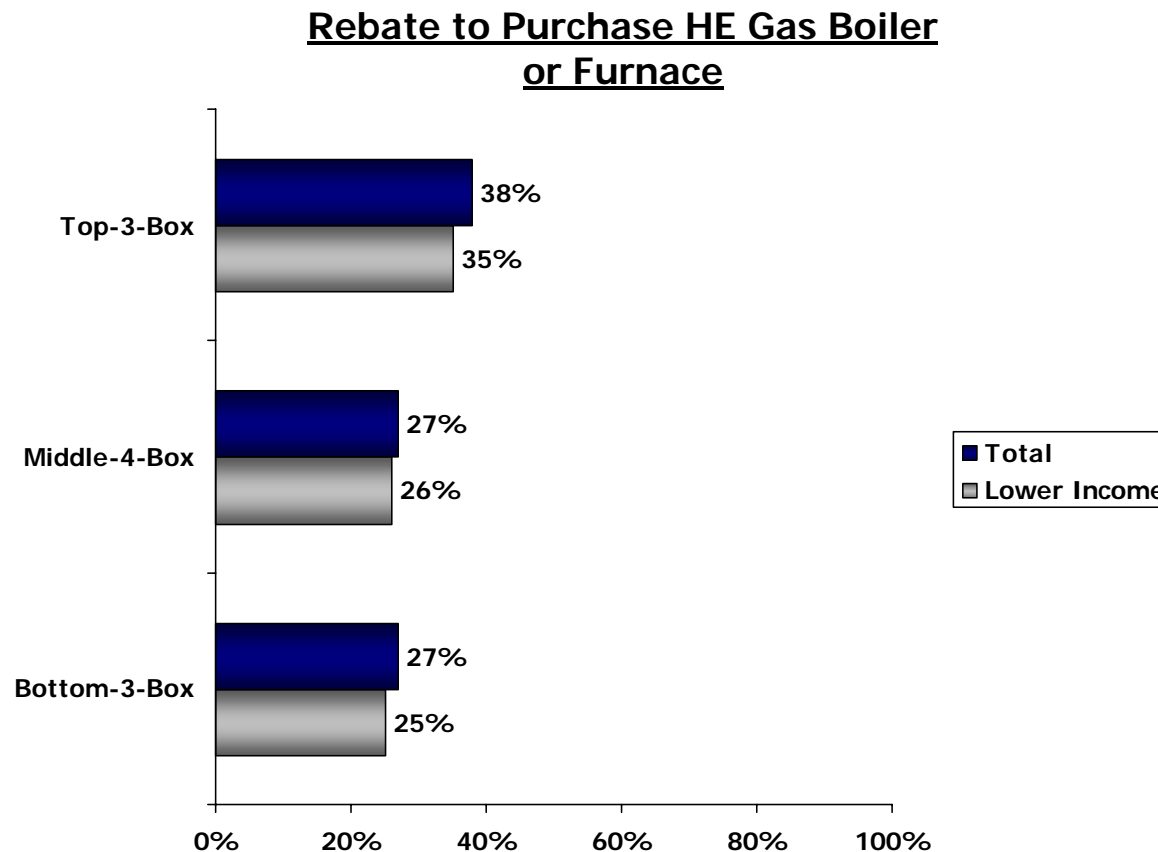
- As financing was added to the high efficiency system's concept, the presence of lower cost financing was positively received by all except those who expressed that they did not need it.
- The behavior of keeping major appliances and systems until they fail was reaffirmed here.

Q9.1: If, instead of a rebate, Central Hudson offered financing at a rate that's 4% lower than what's generally available from banks, how likely would you be to replace your current heating or air conditioning with a high-efficiency system with this lower financing? Savings \$110 per year. (Base=Have central air conditioning or heat pump, Total n=391 (+/-5.0%), Lower income n=78 (+/-11.1%))



# High Efficiency HVAC Systems

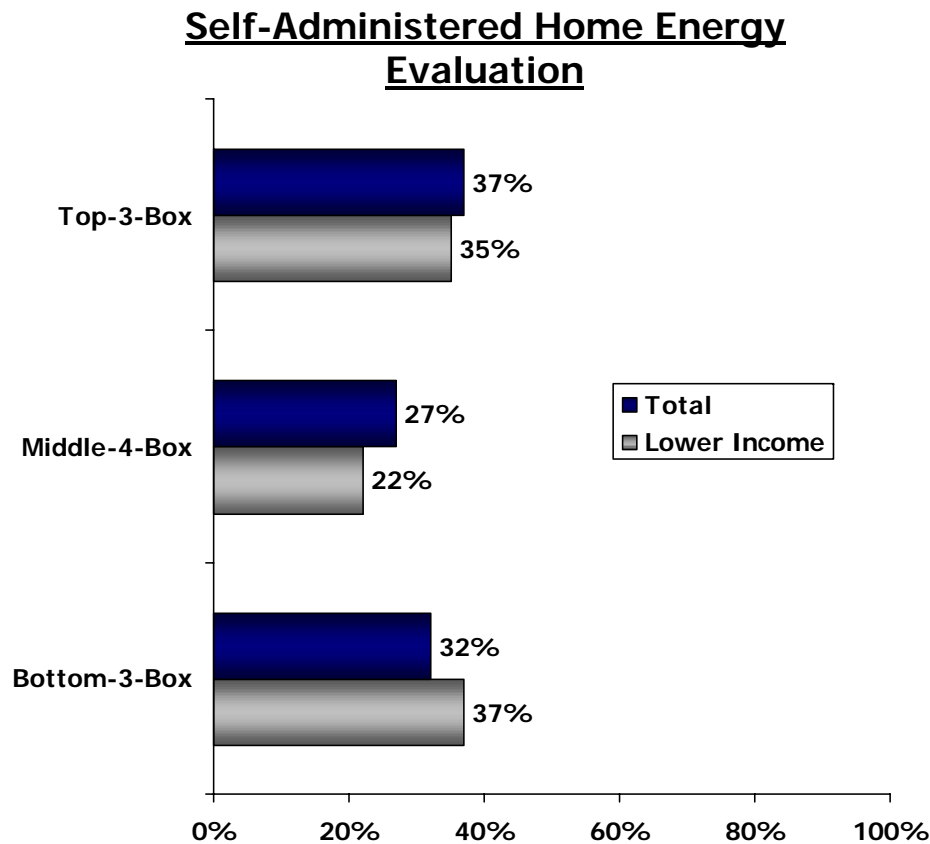
- Customers that have natural gas were asked their likelihood to purchase a highly efficient gas-fired boiler or furnace if offered a rebate to help offset the cost. Roughly, 4 in 10 are highly likely to purchase.



Q9.2: Using a 10-point scale, where "1" mean not at all likely and "10" means extremely likely, and you can use any number in-between, tell me how likely you'd be to purchase a highly efficient gas-fired boiler or furnace if Central Hudson offered a rebate to help offset the cost? (Base=Heat home with natural gas, Total n=283 (+/-5.8%), Lower income n=87 (+/-10.5%))

# Home Energy Evaluations

- Over a third of customers indicate they would go to Central Hudson's website to perform a self-administered home energy evaluation including their level of energy efficiency, energy usage, and appliance use.



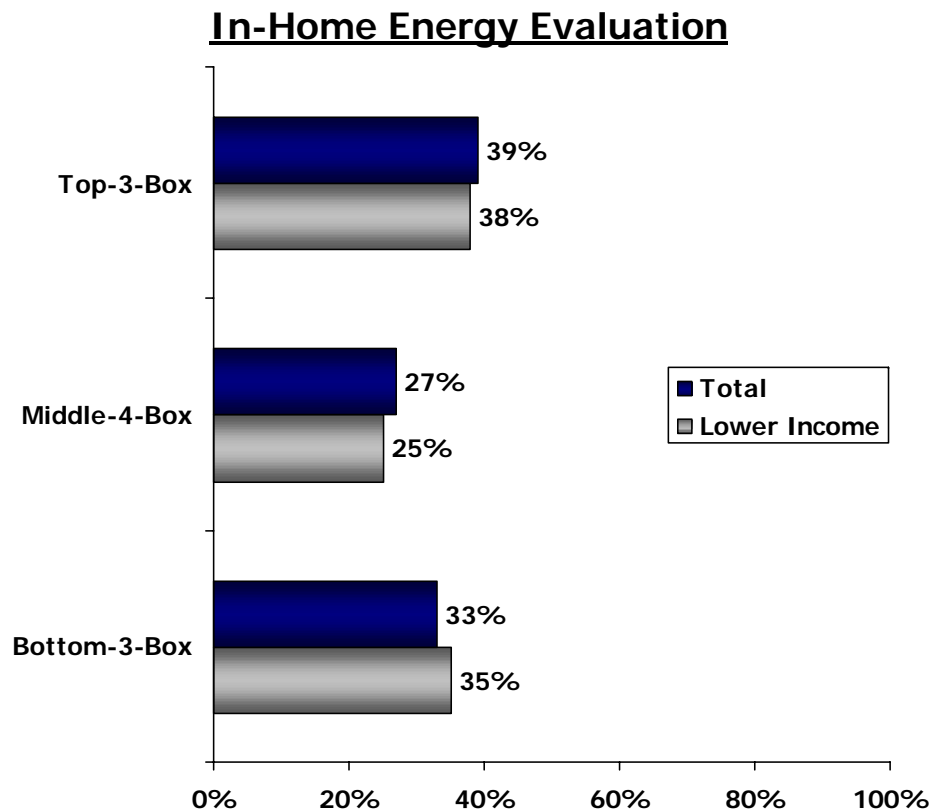
## Focus Group Insights

- The self-administered interest is tempered with a concern as to this type of evaluation being less comprehensive.
- Some customers do not feel they are qualified to enter all of the necessary data accurately.

Q11: Using the same 10-point scale, how likely would you be to go to the Central Hudson website and actually perform a self-administered home energy evaluation?  
(Base=TR)

# Home Energy Evaluations

- Compared to the self-administered home energy evaluation, slightly more customers would be highly likely to have an in-home energy evaluation done by Central Hudson.



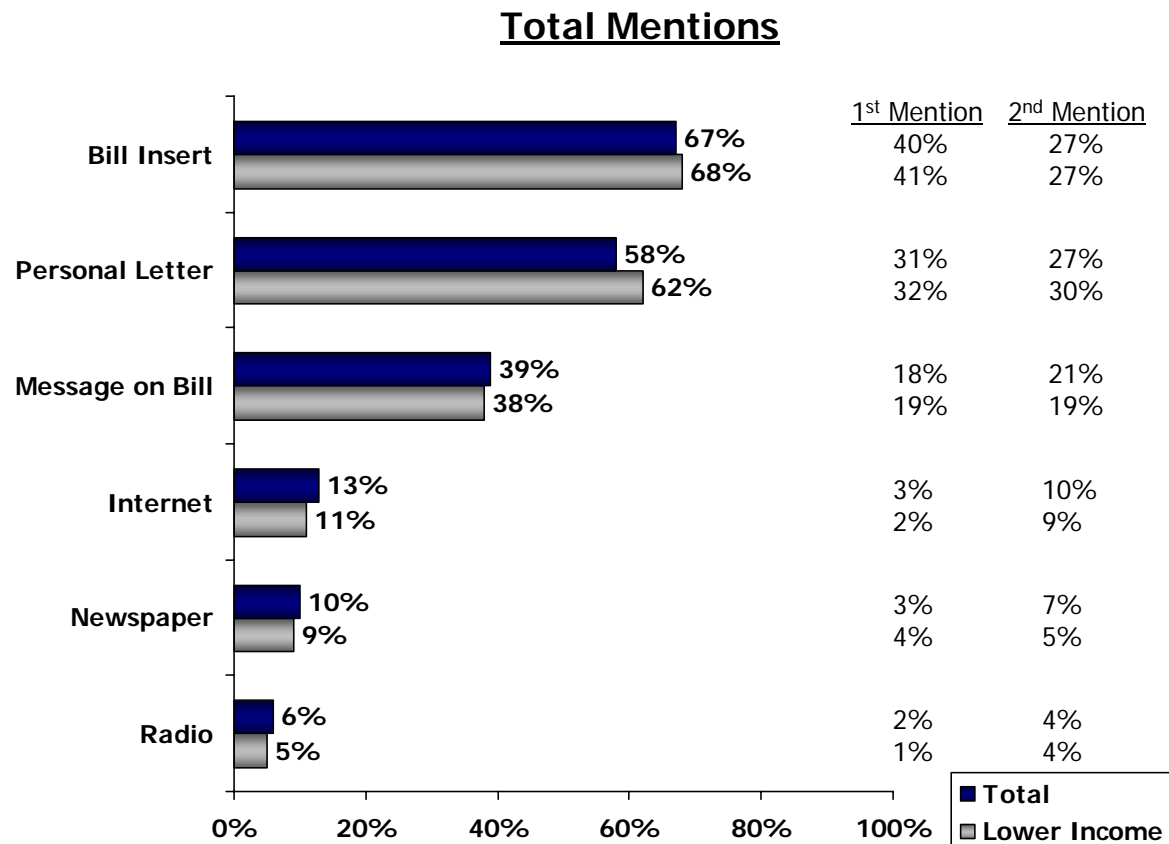
## Focus Group Insights

- There appears to be a clear interest in home energy evaluations.
- There are some distinct preferences between the in-home and self administered, with preferences leaning toward in-home.
- The dominant influence is the expert advice and thoroughness of the in-home as compared to a greater level of convenience with self administered.
- Customers expressed a high preference for in-home energy evaluations to be performed by Central Hudson personnel.

Q12: How likely would you be to have an in-home energy evaluation done by Central Hudson?  
(Base=TR)

# Home Energy Evaluations

- A bill insert or personal letter are the top mentions by customers on how Central Hudson should communicate with them that home energy evaluations are available.



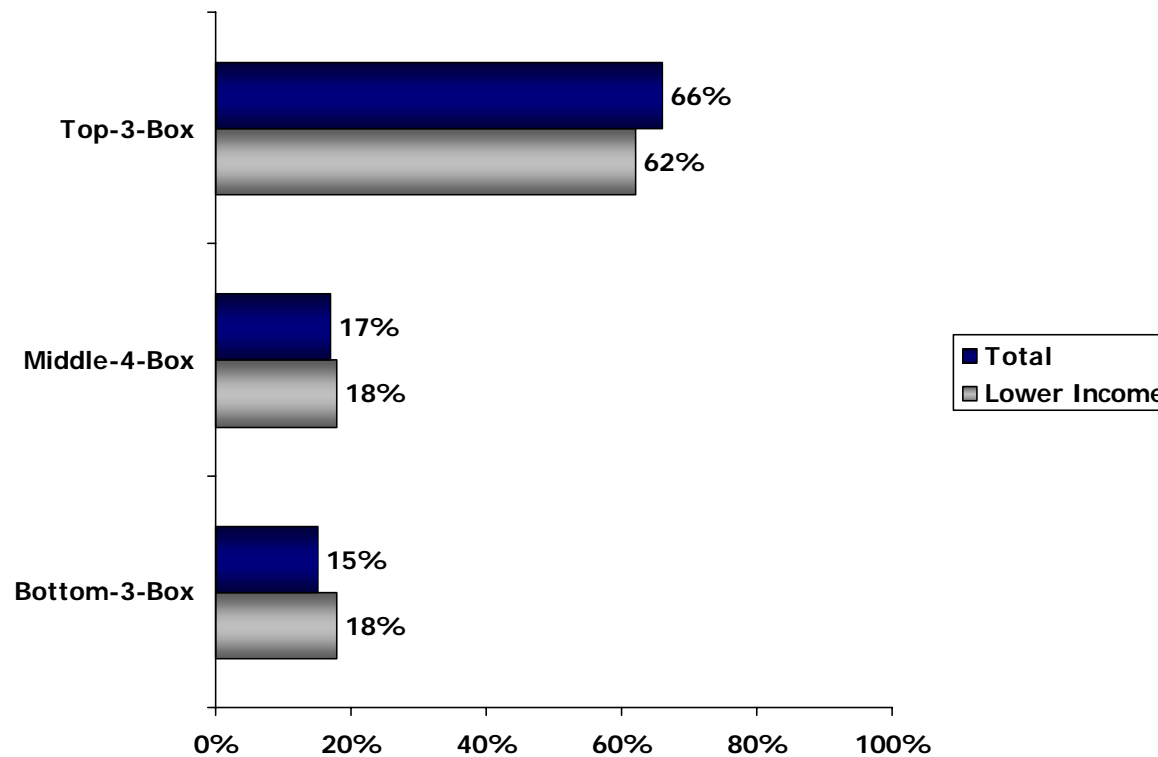
Q13a: What would be the best way to let you know that either of these home energy evaluations is available from Central Hudson?  
 Q13b: And your second choice?  
 (Base=TR)  
 Total mentions equals the sum of first and second mentions.



# Compact Fluorescents

- Two-thirds of customers are interested in a mail-in rebate offer from Central Hudson to purchase compact fluorescent light bulbs.

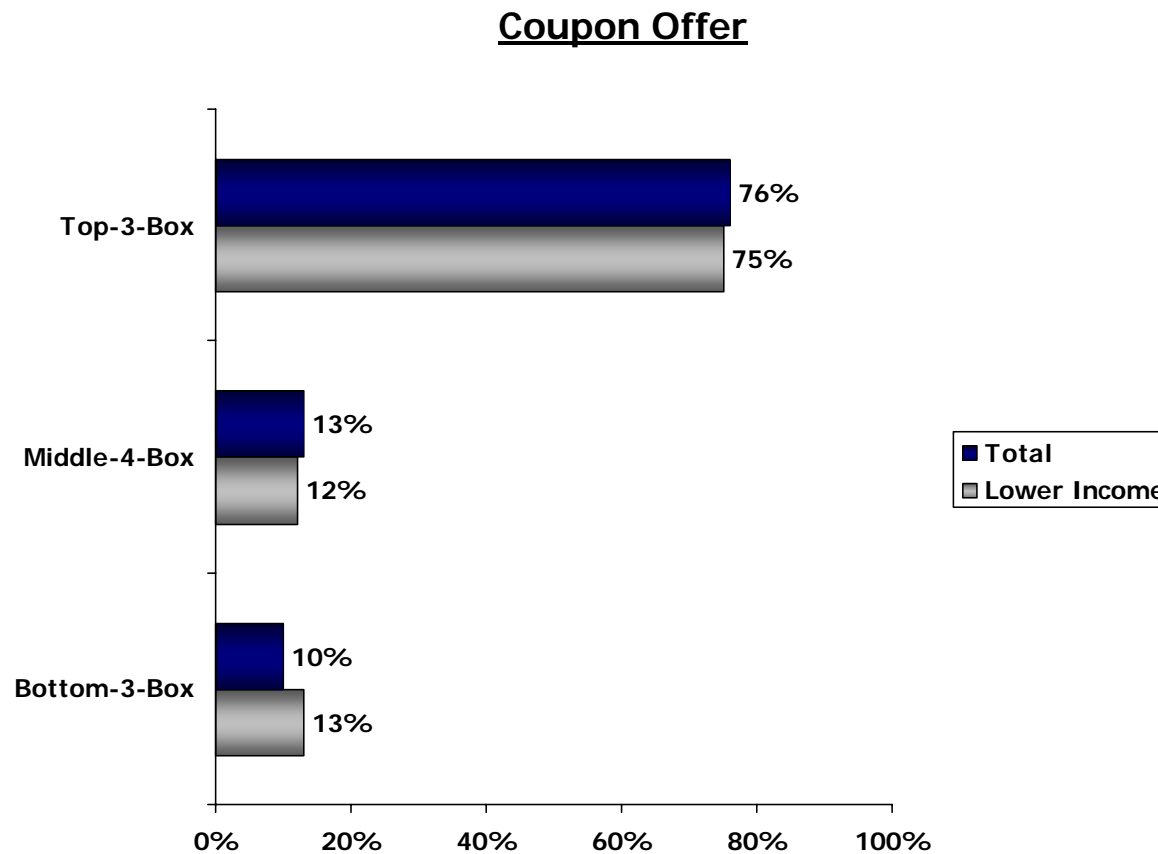
## Mail-In Rebate Offer



Q14: How likely would you be to purchase a package of compact fluorescent light bulbs if a mail-in rebate is offered?  
(Base=TR)

# Compact Fluorescents

- Three out of four customers indicated that they would be likely to purchase a package of compact fluorescent bulbs using a Central Hudson coupon.

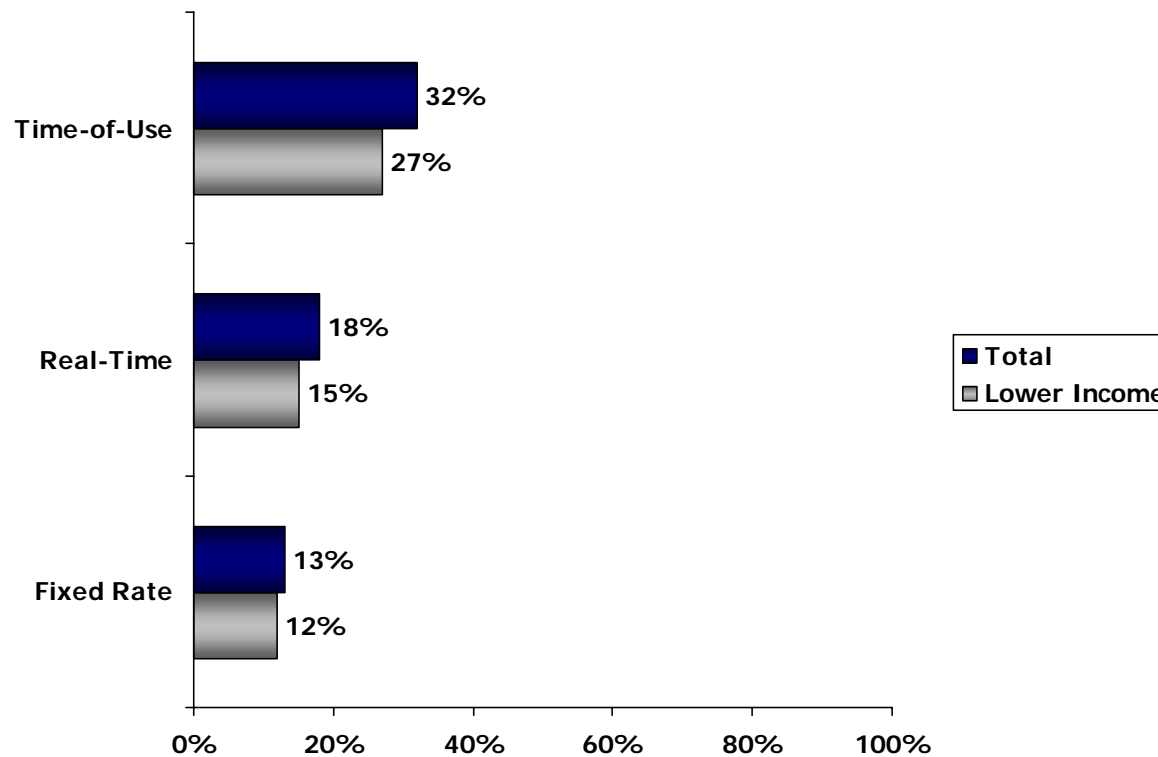


Q15: How likely would you be to purchase a package of compact fluorescent bulbs from a local retail store using these Central Hudson coupons?  
(Base=TR)

# Supply Rate Options

- Customers were randomly asked about one of three supply rate options. Among customers asked about Time-of-Use, about a third are likely to switch from their current supply charge to this option.
- Only 18% of customers who were asked about Real-Time and 13% asked about Fixed-Rate are likely to switch from their current supply charge option.

## Top-3-Box (8, 9, 10)



Q17: (Base=Time-of-Use, Total =394 (+/-4.9%), Lower income n=104 (+/-9.6%))

Q18: (Base=Real-Time, Total n=401 (+/-4.9%), Lower income n=126(+/-8.7%))

Q16: (Base=Fixed Rate, Total n=407 (+/-4.9%), Lower Income n=115 (+/-9.1%))

---

# Respondent Profile

# Respondent Profile

<b>Own or Rent</b>	<b>Total</b>	<b>Lower Income</b>
Own	93%	87%
Rent	7%	13%
<b>Type of Home</b>	<b>Total</b>	<b>Lower Income</b>
Single family	83%	77%
Two or 3 family	5%	8%
Condominium, townhouse or attached house	4%	4%
Mobile home or trailer	4%	7%
Apartment	2%	4%
Other	2%	1%
<b>Residence</b>	<b>Total</b>	<b>Lower Income</b>
Full time	96%	98%
Part-time	3%	1%
Seasonal	1%	1%
Refused	<1%	<1%
<b>Natural Gas</b>	<b>Total</b>	<b>Lower Income</b>
Yes	24%	25%
No	76%	74%
Don't know	1%	1%

# Respondent Profile

<b>Age</b>	<b>Total</b>	<b>Lower Income</b>
18-34	3%	3%
35-54	35%	28%
55-64	23%	20%
65 or older	34%	49%
Refused	4%	0%
<i>Mean</i>	<i>56.5</i>	<i>59.6</i>
<b>Education</b>	<b>Total</b>	<b>Lower Income</b>
High school graduate	26%	44%
Trade school graduate	4%	5%
Some college	20%	22%
College graduate	27%	17%
Postgraduate courses	4%	2%
Post graduate	15%	4%
Refused	5%	6%
<b>Employment Status</b>	<b>Total</b>	<b>Lower Income</b>
Employed	49%	33%
Unemployed	7%	13%
Retired	40%	53%
Full-time student	1%	<1%
Refused	3%	1%
<b>People in Household</b>	<b>Total</b>	<b>Lower Income</b>
<i>Mean number of people</i>	<i>2.5</i>	<i>2.6</i>
<i>Mean number of children</i>	<i>0.6</i>	<i>0.7</i>

# Respondent Profile

<b>Hispanic</b>	<b>Total</b>	<b>Lower Income</b>
Yes	3%	6%
No	92%	93%
Don't know	<1%	<1%
Refused	5%	1%
<b>Conversation in Home</b>	<b>Total</b>	<b>Lower Income</b>
Only English	38%	30%
Mostly English, some Spanish	32%	20%
English and Spanish equally	19%	30%
Only in Spanish	5%	10%
Mostly Spanish, some English	3%	5%
Refused	3%	5%

# Respondent Profile

<b>Income</b>	<b>Total</b>	<b>Lower Income</b>
Under \$30,000	15%	53%
Between \$30,000 and \$40,000	10%	26%
Between \$40,000 and \$50,000	9%	13%
Between \$50,000 and \$60,000	7%	4%
Between \$60,000 and \$70,000	7%	4%
Between \$70,000 and \$100,000	13%	0%
More than \$100,000	16%	0%
Don't know	3%	0%
Refused	21%	0%
<i>Mean (in thousands)</i>	<i>70.5</i>	<i>33.0</i>
<b>Internet Access at Home</b>	<b>Total</b>	<b>Lower Income</b>
Yes	73%	58%
No	24%	41%
Don't know	<1%	<1%
Refused	3%	1%
<b>Gender</b>	<b>Total</b>	<b>Lower Income</b>
Male	44%	35%
Female	56%	65%