



Colorado In Home Device Pilot

Customer Survey Results

**2013 December
Market Research**



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Executive Summary

- **Customers appear to have taken actions to save**
- **Participants are satisfied overall**
- **Savings perception is crucial for program acceptance**
- **A niche market approach required for launch**
- **Pricing of the product \leq \$50**
- **Problem resolution required before full deployment**



Background

- Colorado customers opted into the pilot
 - ◆ Boulder – Smart Grid City
 - ◆ Outside Boulder (Westminster & Centennial)
- All pilot customers required to have central A/C
- In home device systems provided free for pilot
- Incentive provided to pilot customers for survey
- Attrition of customers tracked through the pilot
- Customers invited to answer survey
 - ◆ 1,066 customers in 2012
 - ◆ 886 customers in 2013, attrition due to moves



Methodology

- Initial online fielding of the survey occurred in 2012.
- Two online versions of the survey fielded in 2013 between September 25 and October 20
- 495 total survey completes, a 56% response rate:
 - ◆ Follow-up survey from 2012 respondents (356)
 - ◆ First time survey respondents in 2013 (139)
- Topics covered:
 - ◆ Satisfaction with the pilot and service aspects
 - ◆ Purchase likelihood
 - ◆ Control event participation and reactions
 - ◆ Energy efficiency measure changes
 - ◆ Home demographics
- Scale questions report the percentage of top 3 box scores (8-10) received on a 0 to 10 scale.

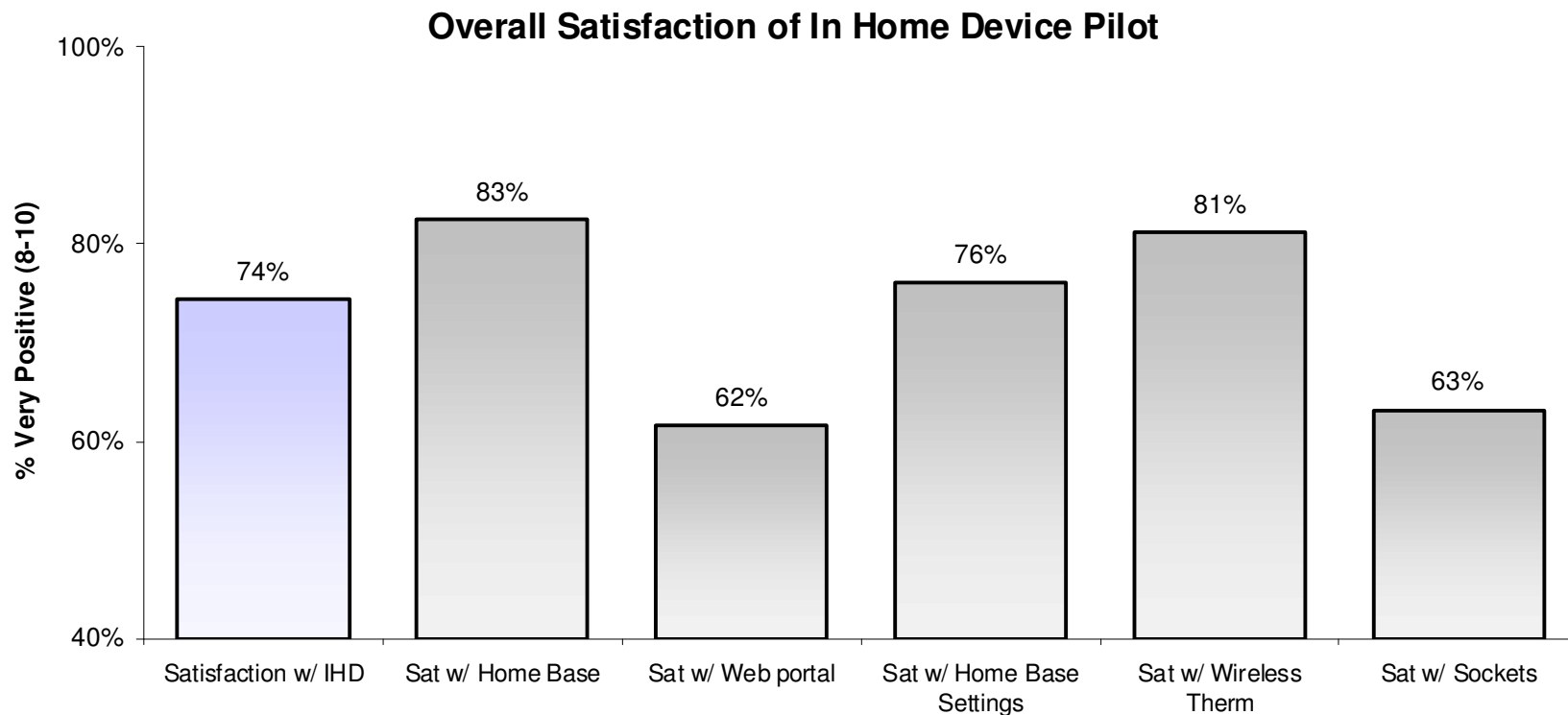


2013 Survey Results

2013 Combined Survey Results

Satisfaction

- IHD participants are generally satisfied with the pilot
- Web portal and appliance sockets are rated lowest



How satisfied are you with the In Home Device pilot program? How satisfied are you with the following features: . . ?

Positive Comments Provided

“Found the program to be a big help in managing our utility usage.”

“Great program. Very useful to help teach my son the concept of how much energy things use.”

“This device has made me more aware of saving energy.”

“I love the ability to control the thermostat from my phone when I'm away from home.”

“We really enjoy our IHD and look at it on a daily basis to see how well we're doing with lowering our consumption.”

Constructive Comments Provided

“The iPhone app needs work.”

“You need control devices for things like a dryer, window AC units, IE things that pull more amps than just a lightbulb.”

“There should be some incentive to participate in control events. The events are too long.”

“To me it seemed a waste because I was already doing all of the energy saving strategies.”

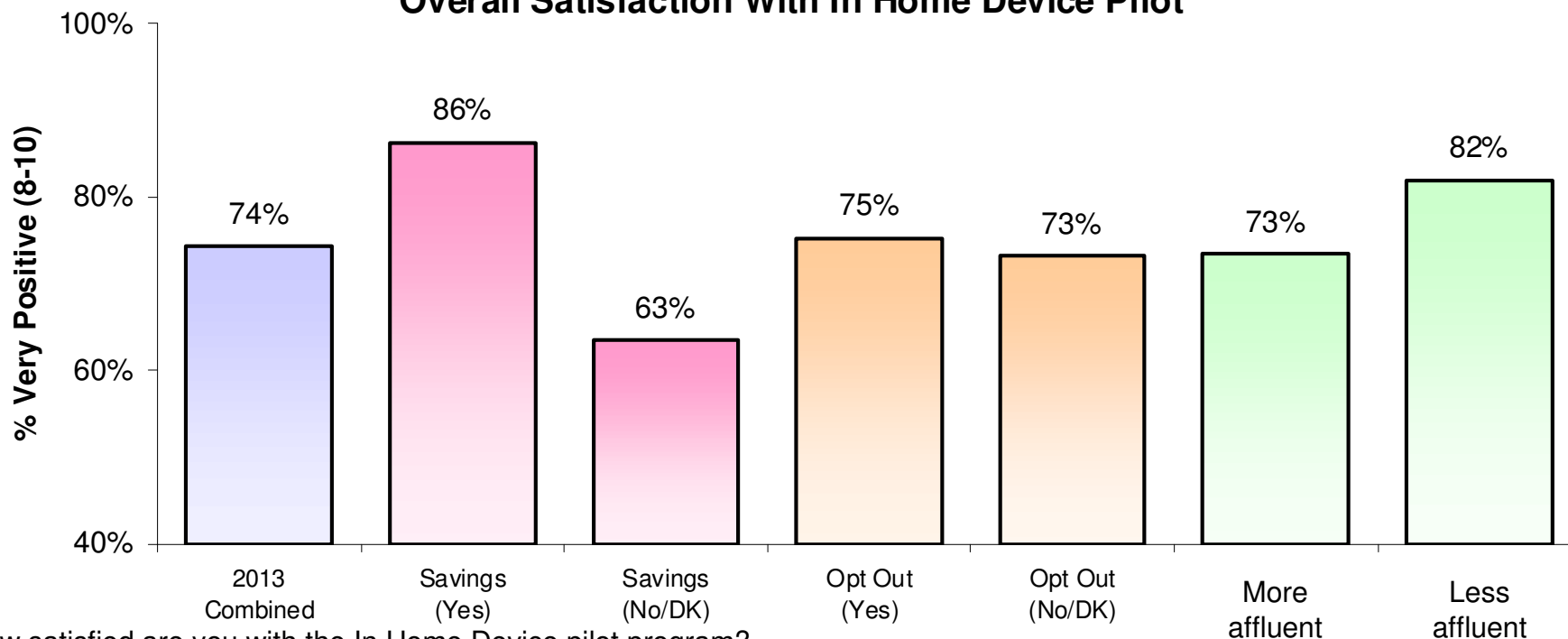
“A couple of months we were only saving \$4. That didn't seem worth how hot our house got on some days.”

2013 Combined Survey Results

Satisfaction Between Participant Groups

- Perception of Savings using an IHD is critical
- Life Stages differ directionally, likely a desire to reduce the bill

Overall Satisfaction With In Home Device Pilot

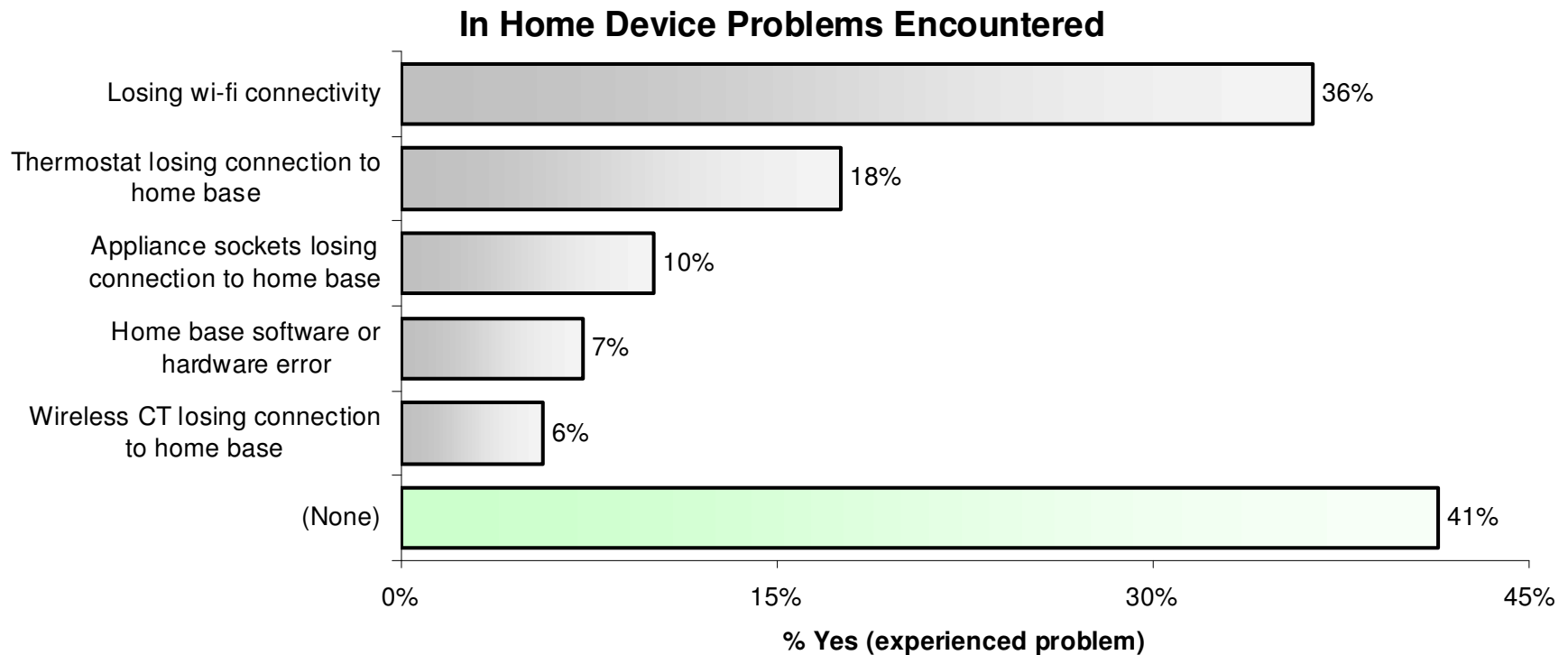


How satisfied are you with the In Home Device pilot program?

2013 Combined Survey Results

Technical Problems Encountered

- A majority of pilot customers experienced problems
- Losing wi-fi connectivity is the most common issue



Have you had any of the following problems with the In Home Device system? (Mark all that apply)

2013 Combined Survey Results

Problems Encountered - Additional

- Sampling of additional issues encountered for pilot customers:

“Lost web control of thermostat - (best feature!!)”

“Rain broke outside unit [wireless CT at meter]”

“Home base died and needed to be replaced, a pain!”

“A very strange popping noise in my electrical box especially during the hottest days”

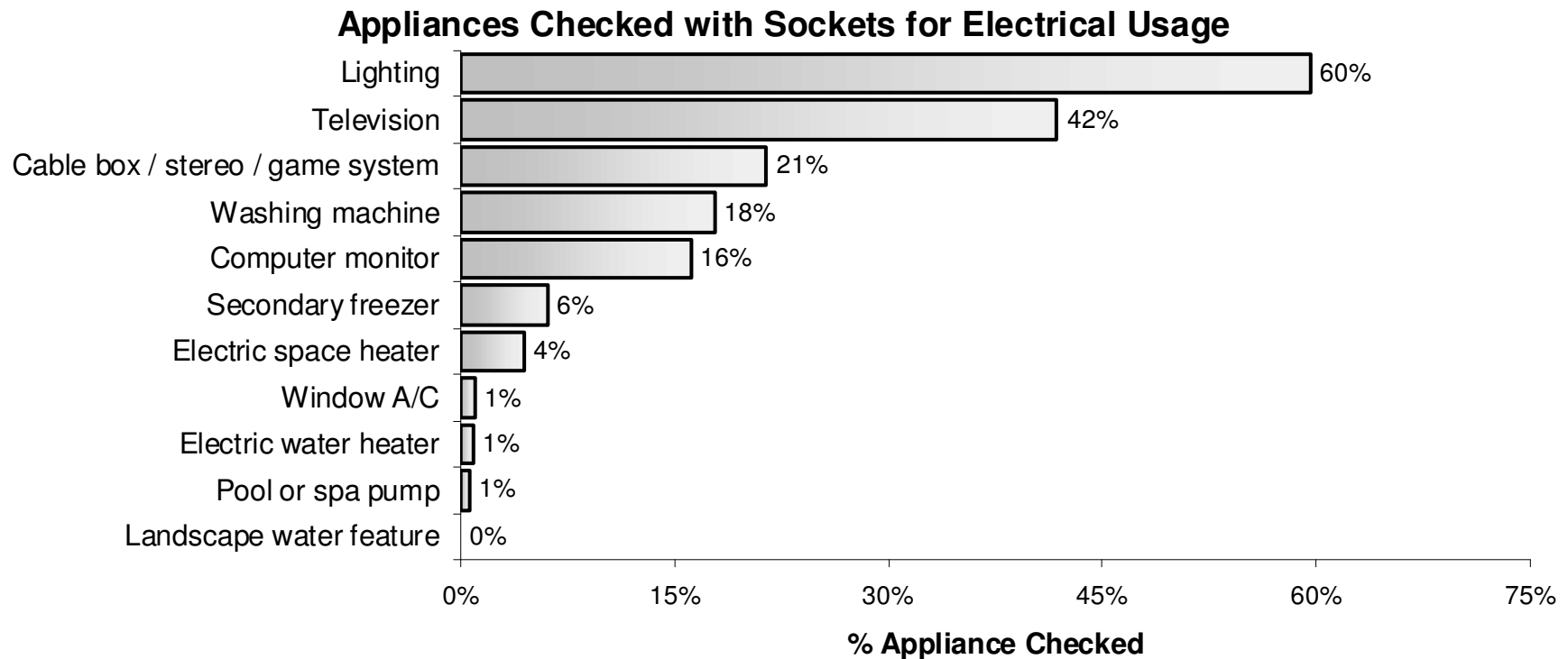
“Thermostat quit working”

“Hard to change settings, and hard to activate changes”

2013 Combined Survey Results

Appliances Checked Using Sockets

- **Socket use is limited to household equipment and appliances easily accessible for checking.**

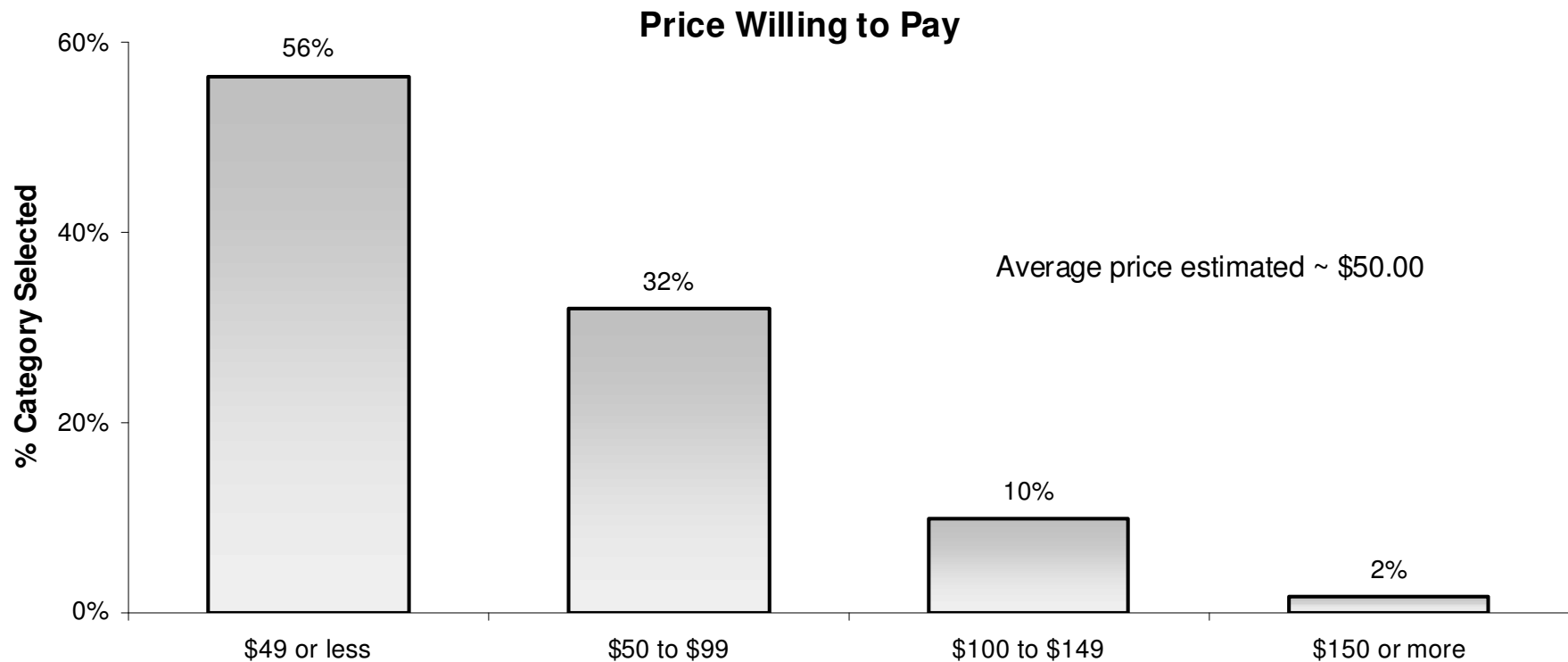


What kinds of appliances or electronics have you connected to the sockets provided with the In Home Device system? (mark any)₁₃

2013 Combined Survey Results

Purchase Intent and Price

- 19% of participants indicate willingness to purchase
- Indicated price is estimated at \$50 or less

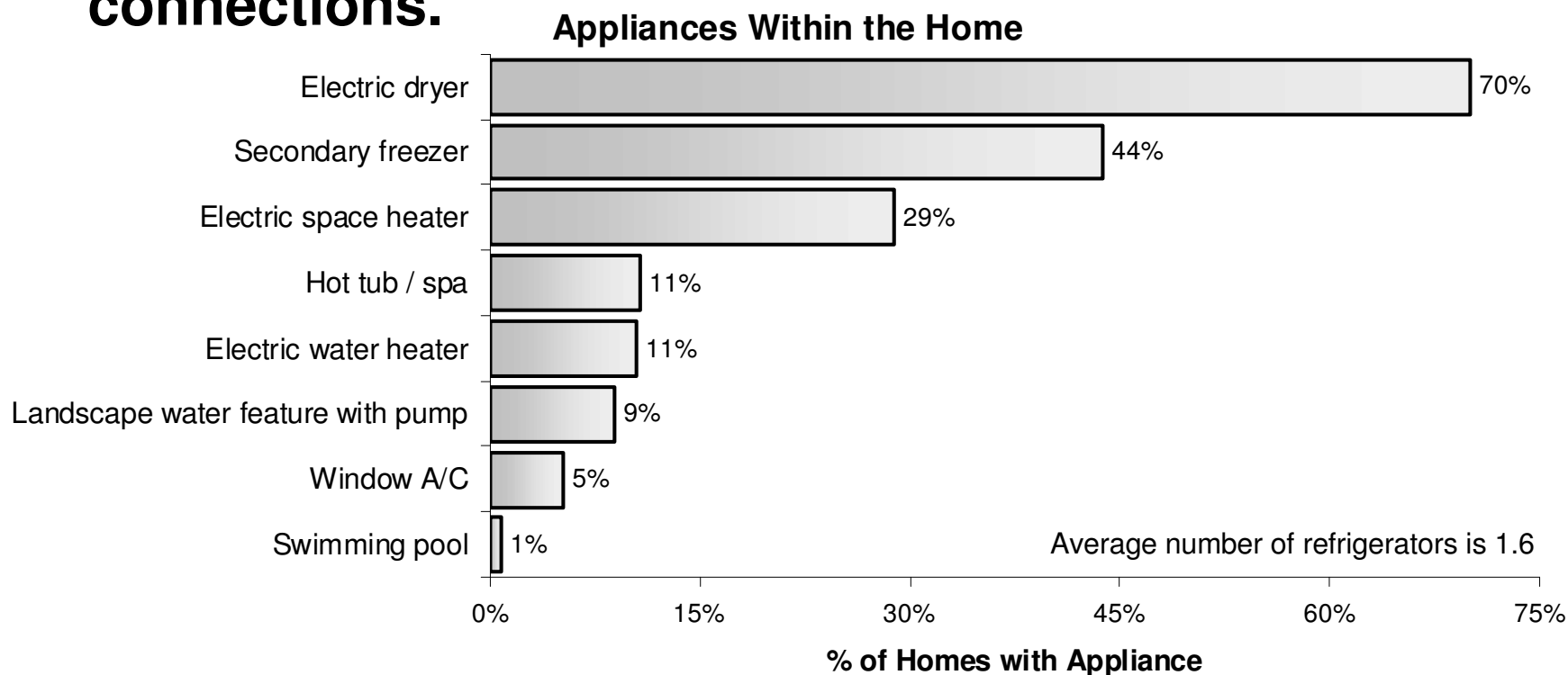


How likely would you be to purchase an In Home Device system ON YOUR OWN? How much would you be willing to pay

2013 Combined Survey Results

Appliances in Homes

- **Electric dryers, hot tubs and water heaters are likely not compatible with the IHD unit that requires 120v connections.**



Please indicate if any of the following appliances are in your home: (Mark all that apply)

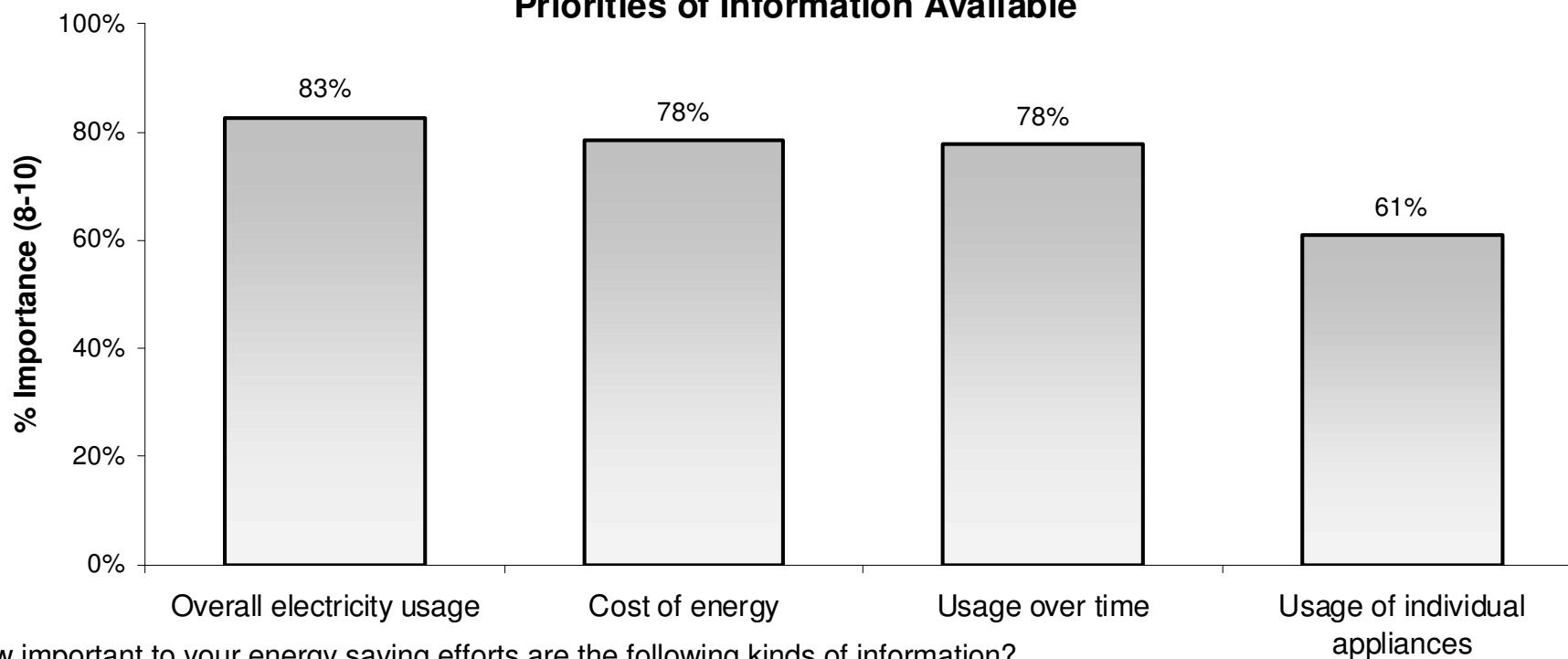
2013 Combined Survey Results

Energy Savings Information Importance

47% of respondents thought they saved energy using the IHD, aligning with customer priorities to understand usage and cost.

49% of customers thought the IHD system was helpful.

Priorities of Information Available

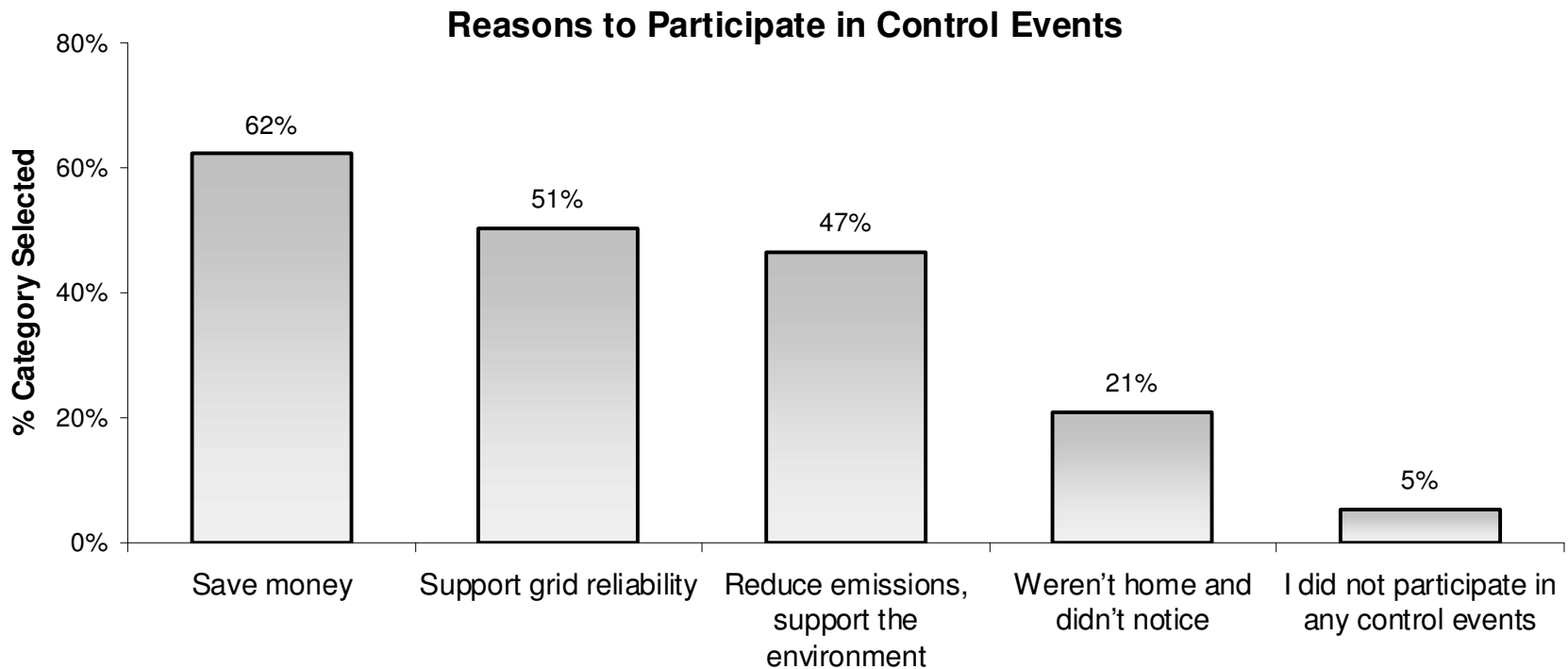


How important to your energy saving efforts are the following kinds of information?

2013 Combined Survey Results

Control Event Participation & Motives

- Saving money is the dominant reason to curtail during control events.
- The self reported Opt Out rate is 59% in 2013.

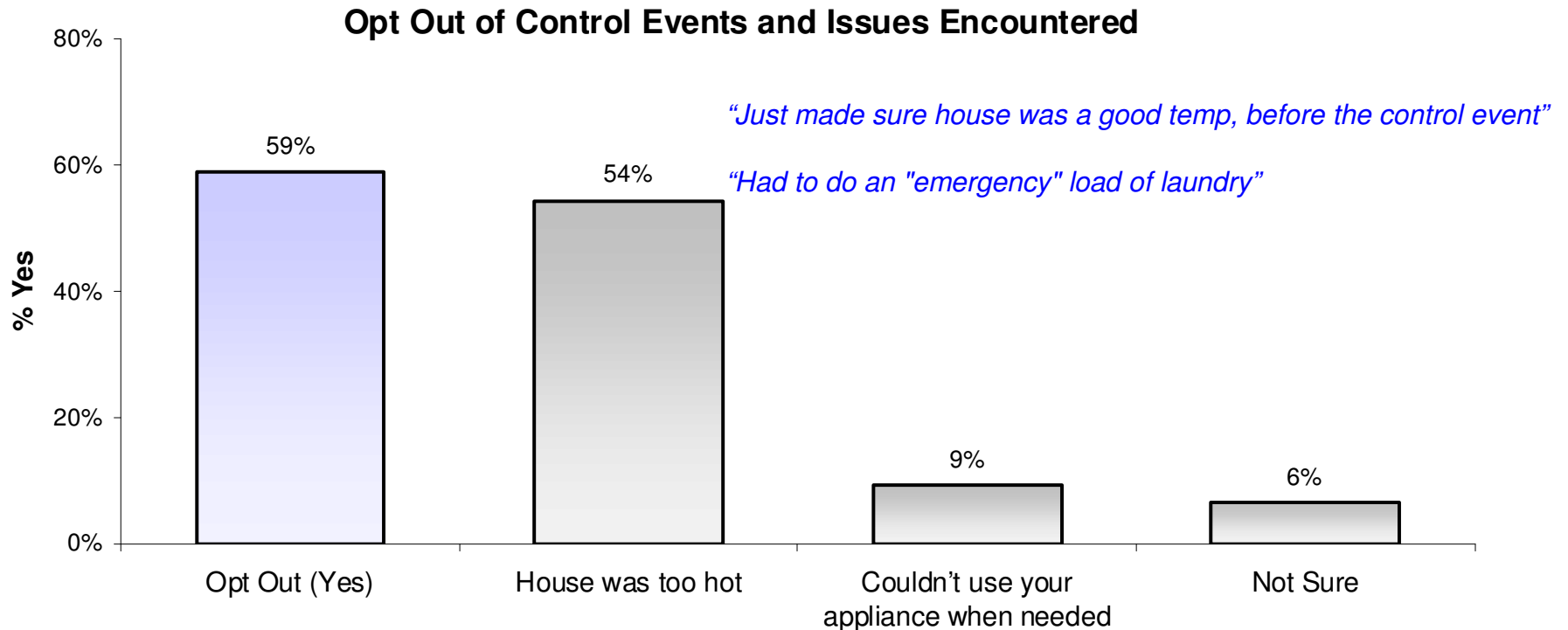


Why did you participate in a Control Event? (Mark all that apply)

2013 Combined Survey Results

Control Event Participation & Motives

- House too hot is biggest obstacle of summer control events.

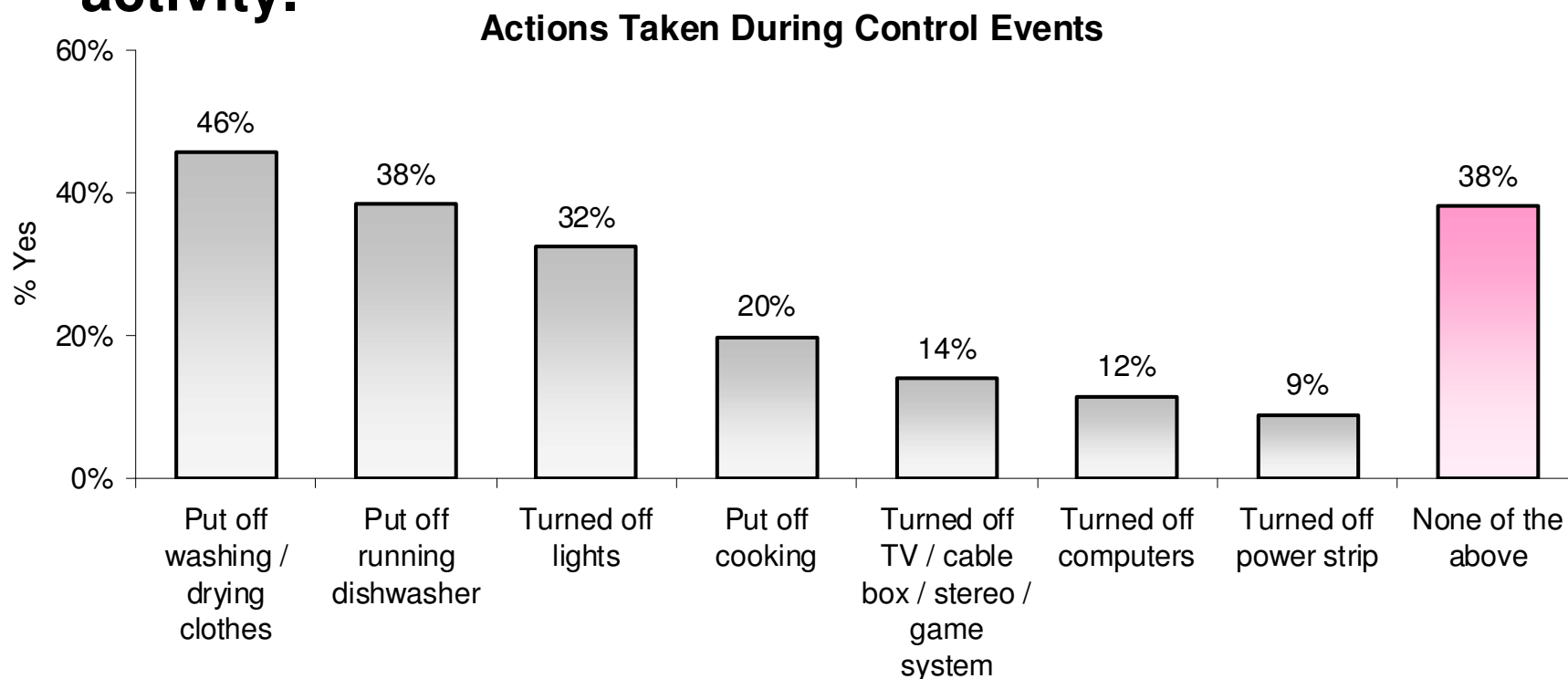


Have you chosen to "Opt Out" of a Control Event? Did you experience comfort issues during Control Events?

2013 Combined Survey Results

Control Event Actions Taken

- **Over 60% of customers indicate taking some action during control events, often just delaying a planned activity.**



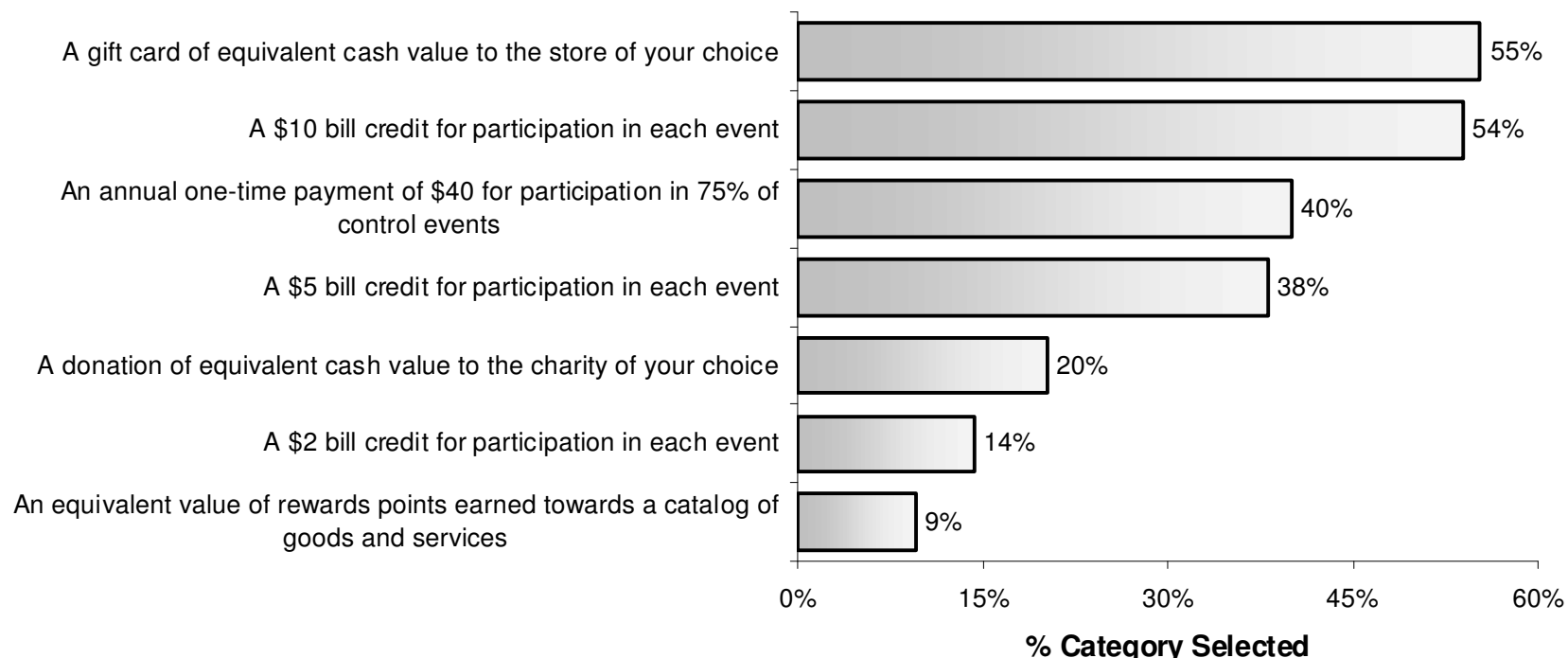
During Control Events, did you do any of the following: (Mark all that apply)

2013 Combined Survey Results

Control Event Incentives

- **Larger cash or equivalent incentives are much preferred over donations or reward point programs.**

Preferred Incentives

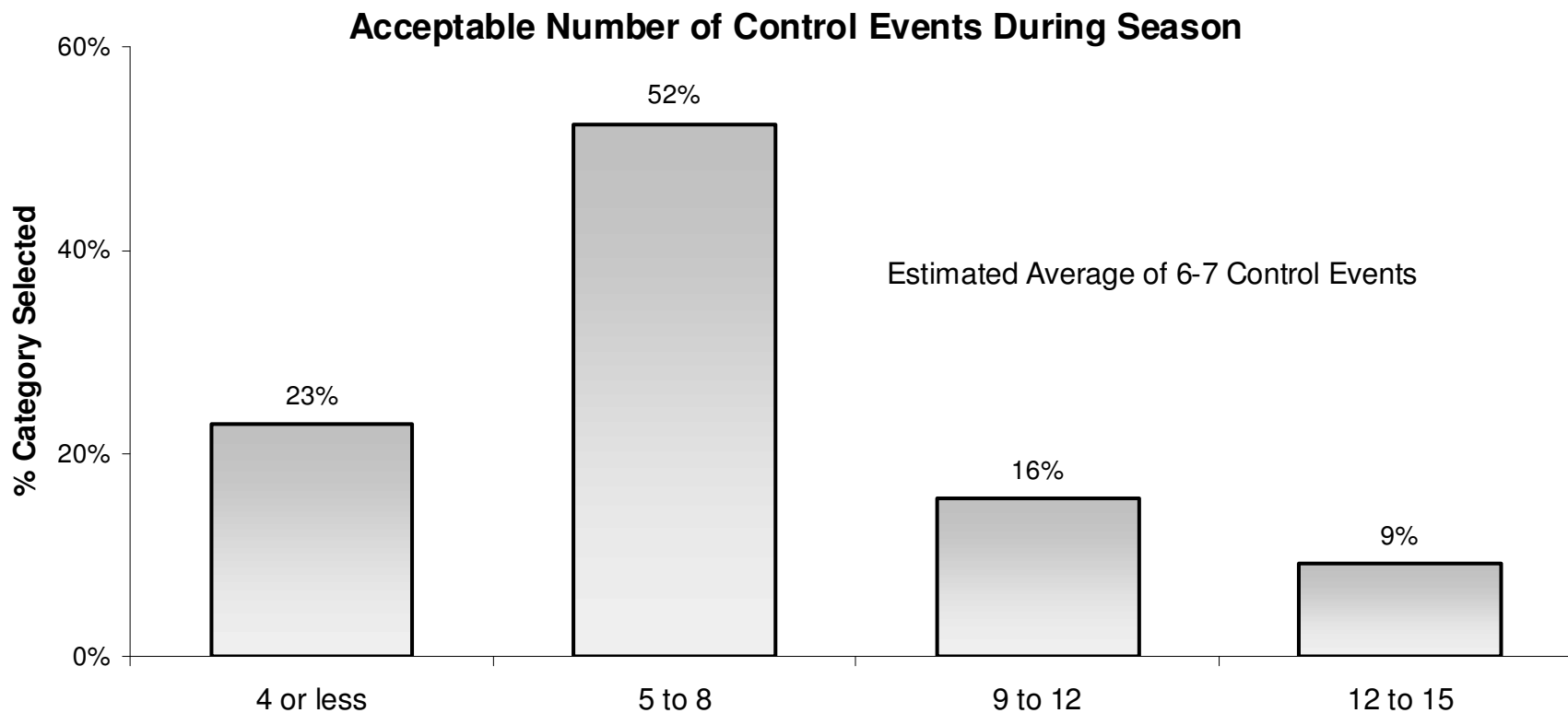


Would any of the following monetary incentives encourage you to participate in more Control Events? (Mark all that apply)
Would you be more likely to participate in Control Events if the incentive were provided in different forms? (Mark all that apply)

2013 Combined Survey Results

Acceptable Number of Control Events

- A majority of customers would accept six to seven control events during a season.



How many events in total would you find reasonable over the 4 month Control Event season?

2013 Combined Survey Results

Preparations For Control Events

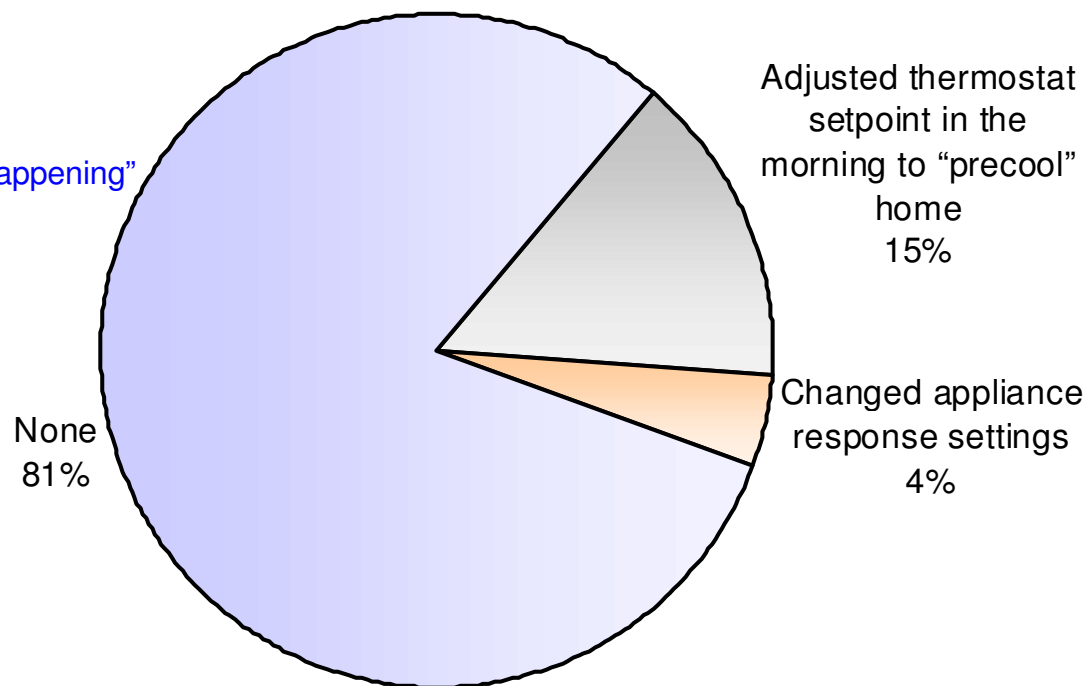
- A large majority of pilot customers take no major action in preparation of control events.

“Notifications weren't timely enough to prepare.”

“Usually opted out”

“Mostly never knew they were happening”

Preparations Taken for Control Events

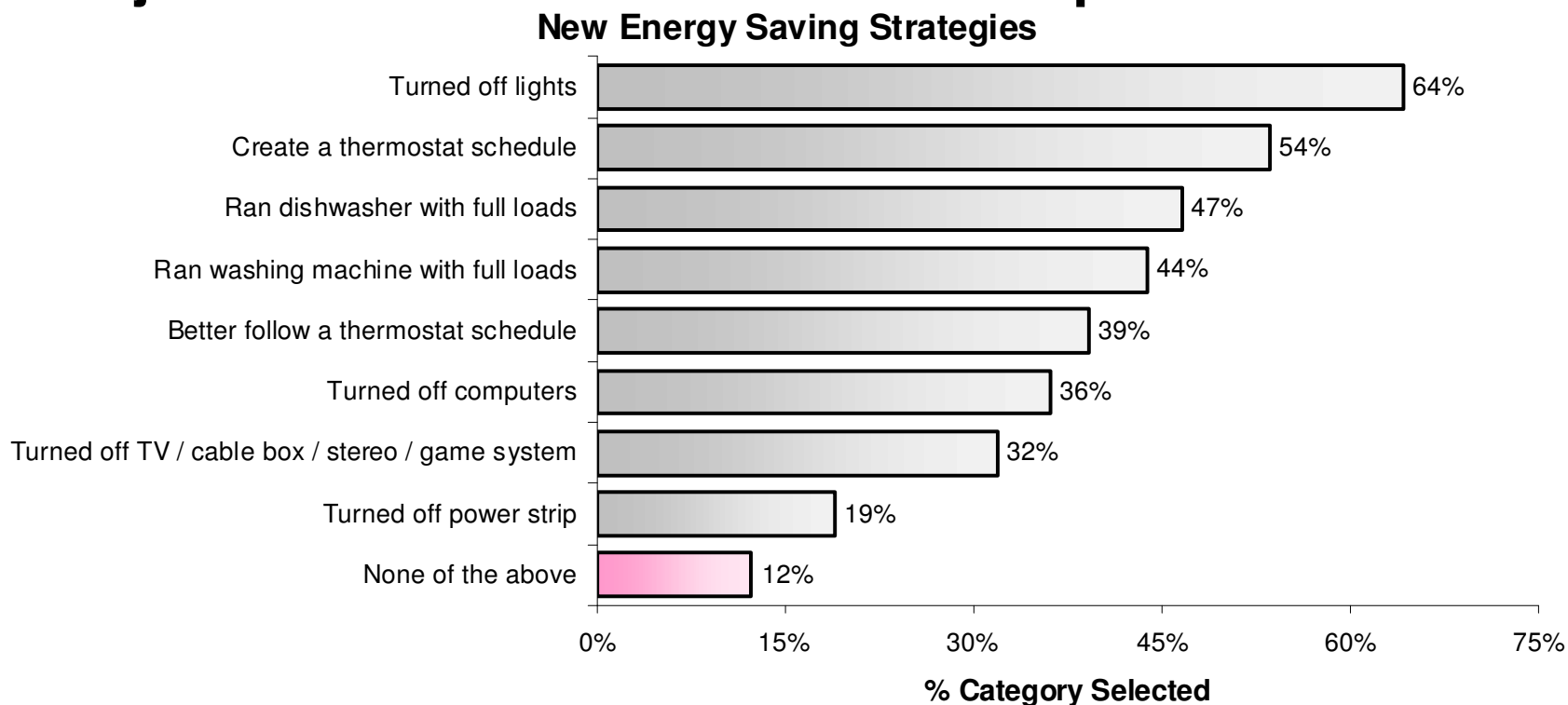


Did you take any action to prepare for control events? (Mark all that apply)

2013 Combined Survey Results

New Energy Efficiency Strategies

- **Customers report behavioral pattern changes in conjunction with the in-home device pilot.**

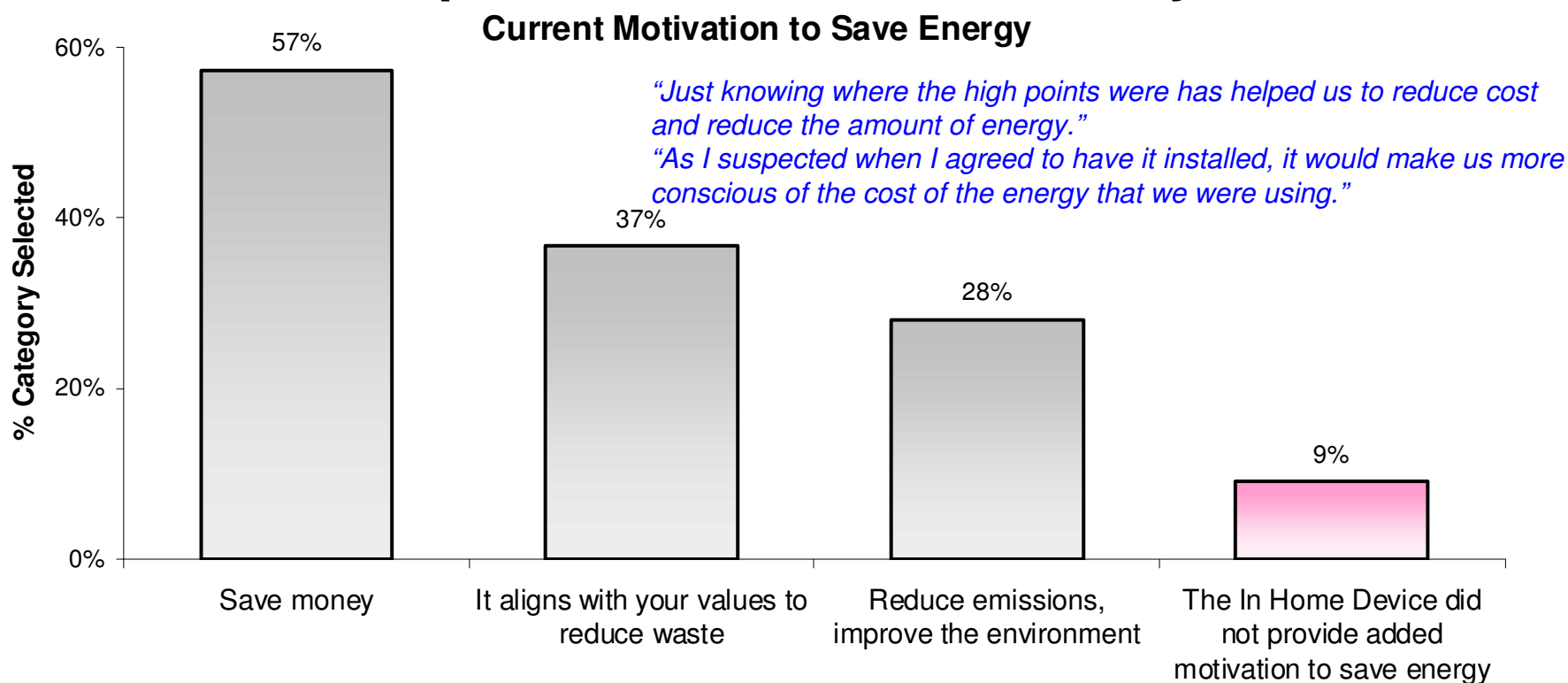


Since participating in the In Home Device pilot program, what new energy saving strategies have you used AT ANY TIME, regardless of Control Events? (Mark all that apply)

2013 Combined Survey Results

Current Motivations to Save Energy

- Primary motivation to conserve energy through the In-Home Device pilot remains to save money.



What motivates you to save energy now that you have an In Home Device? (Mark all that apply)

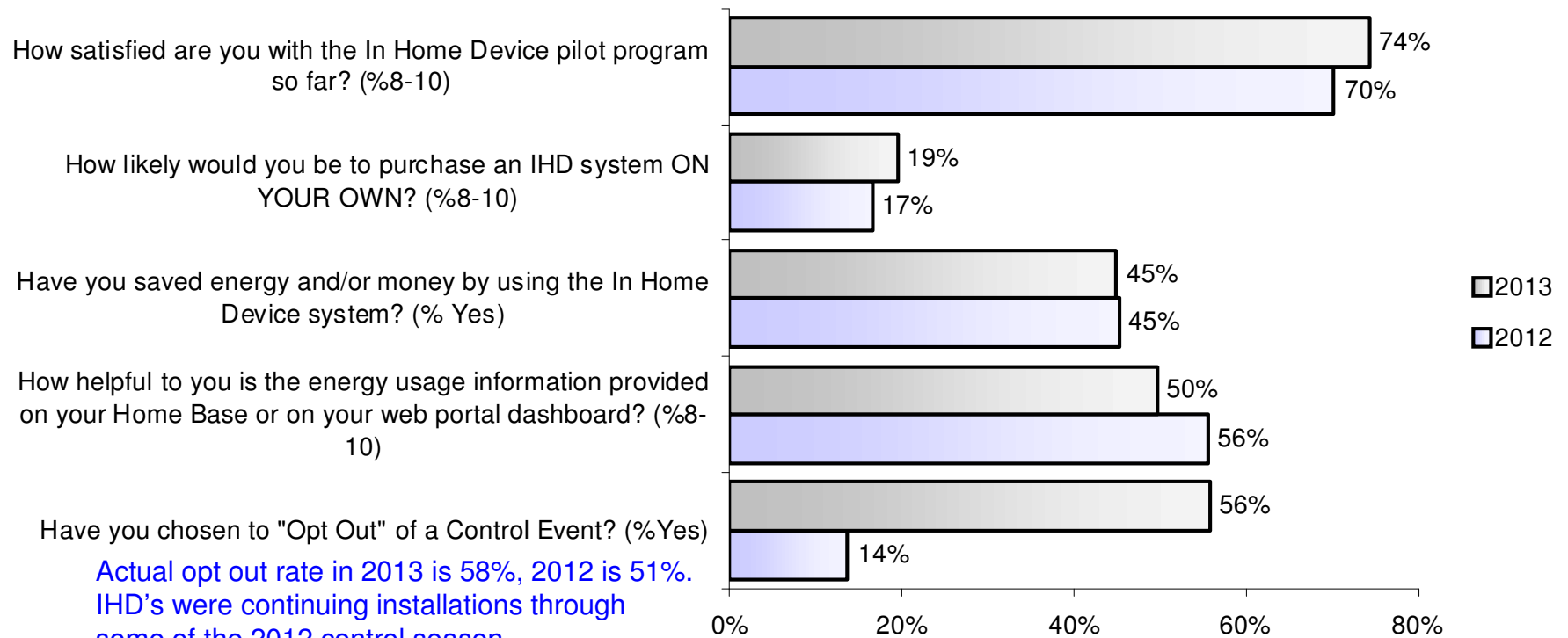


Respondent Comparisons 2012-2013

Respondent Comparisons

Satisfaction

- Satisfaction appears consistent for same respondents.
 - A majority self report “opting out” of 2013 control events.
- Comparison of Participants in Both 2012 and 2013 Surveys**

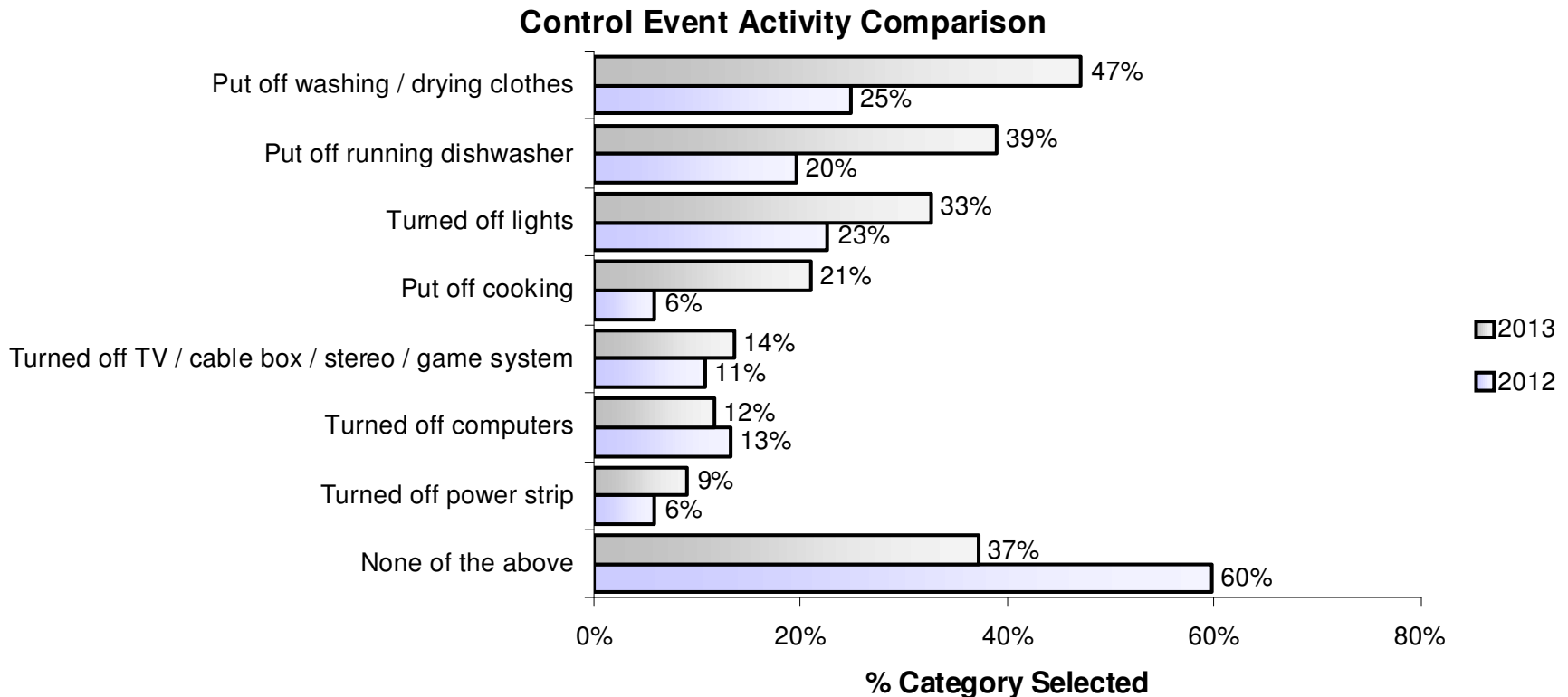


Actual opt out rate in 2013 is 58%, 2012 is 51%. IHD's were continuing installations through some of the 2012 control season.

Respondent Comparisons

Control Event Actions Taken

- Responding during control events is generally up in 2013 among same respondents surveyed in 2012.



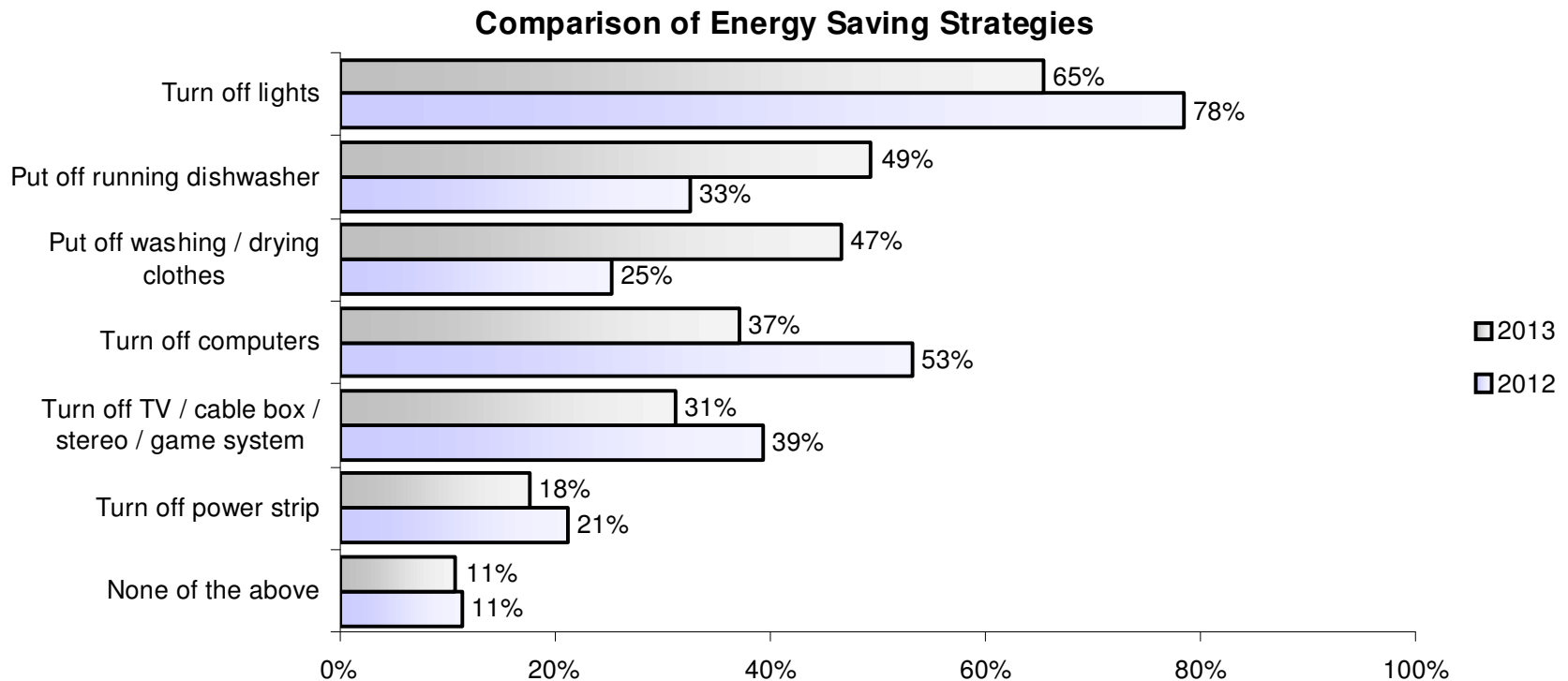
During Control Events, did you do any of the following:

n=353

Respondent Comparisons

Energy Efficiency Strategies

- Respondents delay behaviors in 2013, but appear less motivated to take action to turn off lights/equipment.



Since participating in the In Home Device pilot program, what energy-saving strategies have you used AT ANY TIME, regardless of Control Events?

n=353



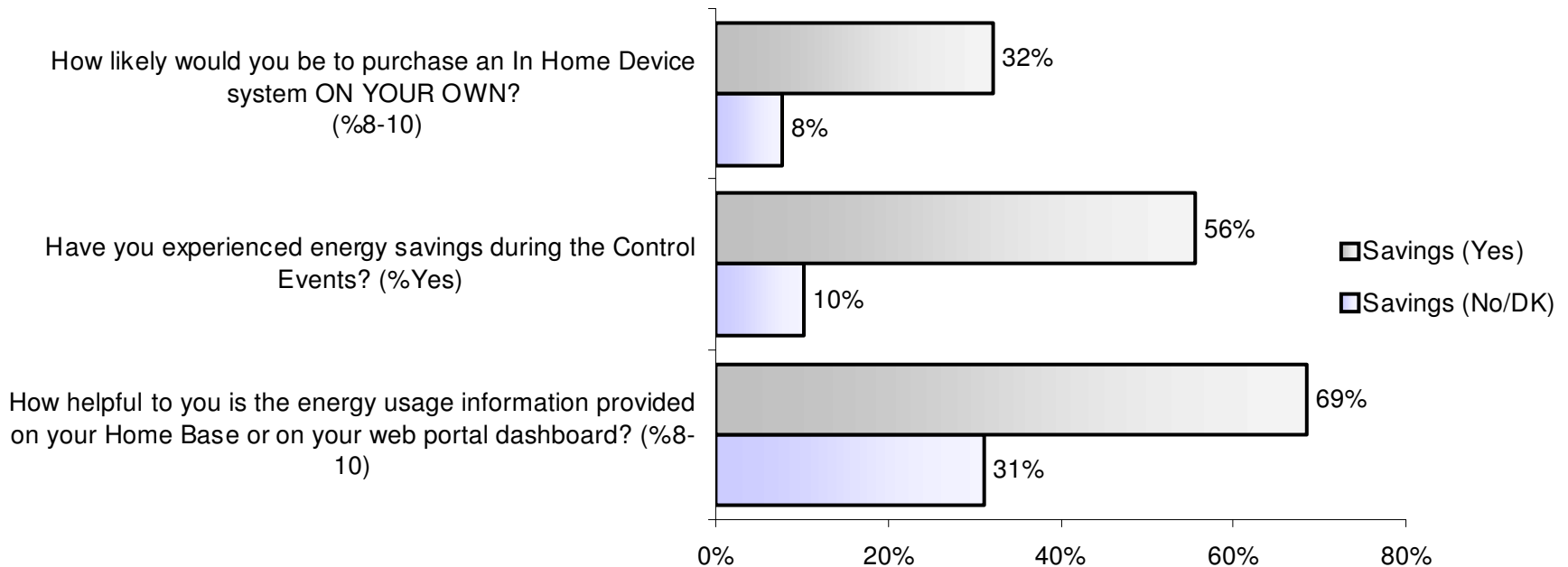
Energy Savings Perception

Energy Savings Perception

Savings Perception Impact

- Perception plays a large part in pilot satisfaction.
- Savings perception impacts purchase intent by a factor of four.

Savings and Value Perception Impact on Purchase Intent

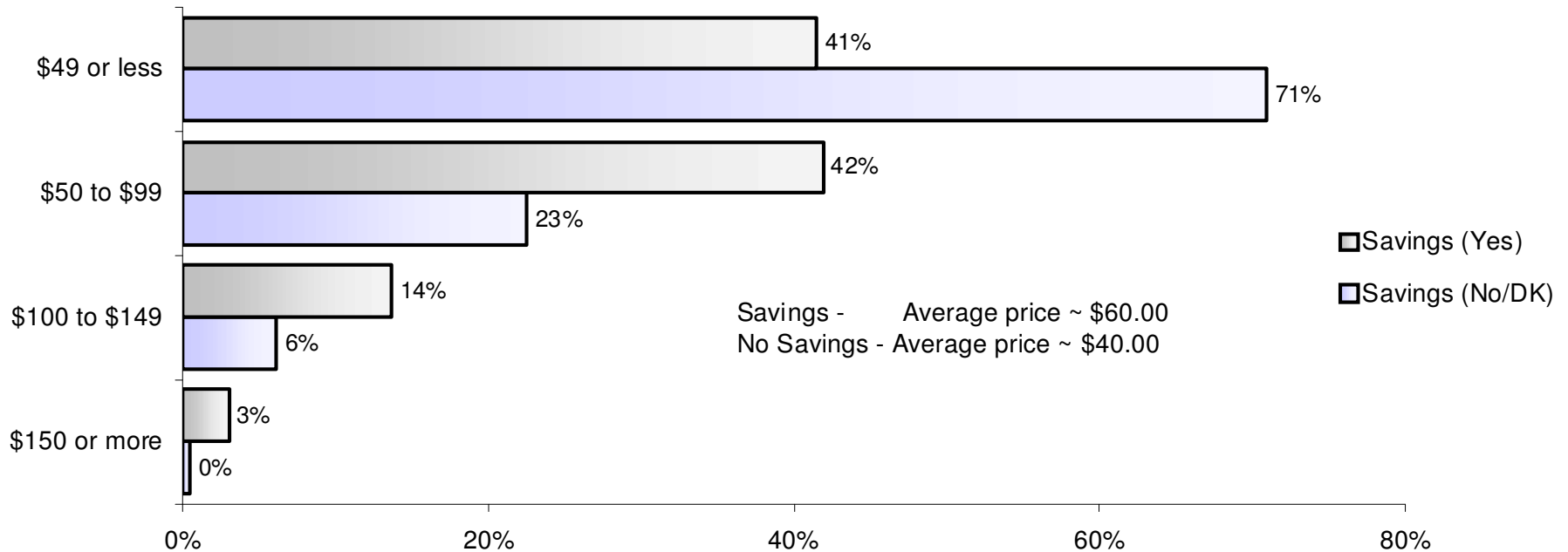


Energy Savings Perception

Purchase Price Impact

- Savings perception impacts purchase price by 50%.

Savings Perception Impact on Price of In Home Device System



How much would you be willing to pay for an In Home Device system?

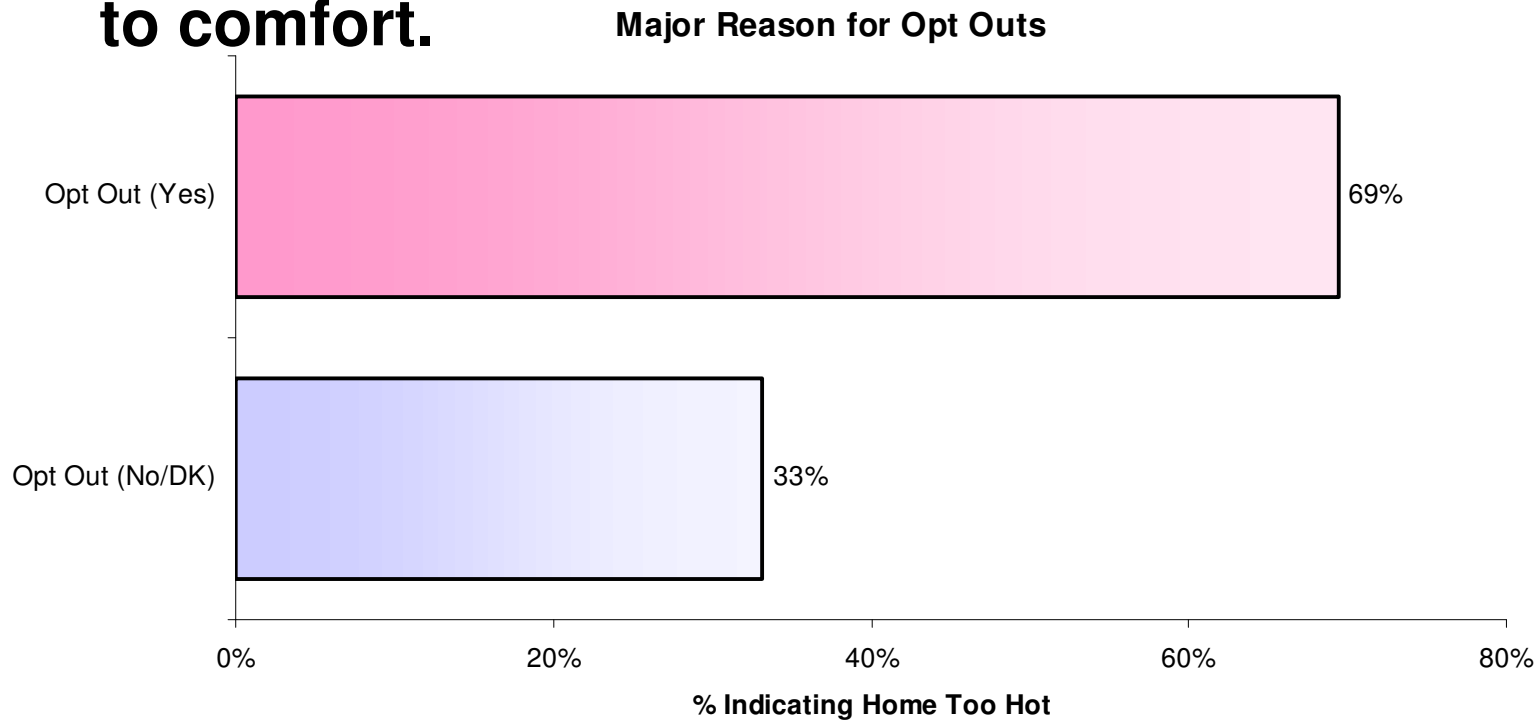


Opt Out Comparisons

Opt Out Comparisons

Control Event Participation

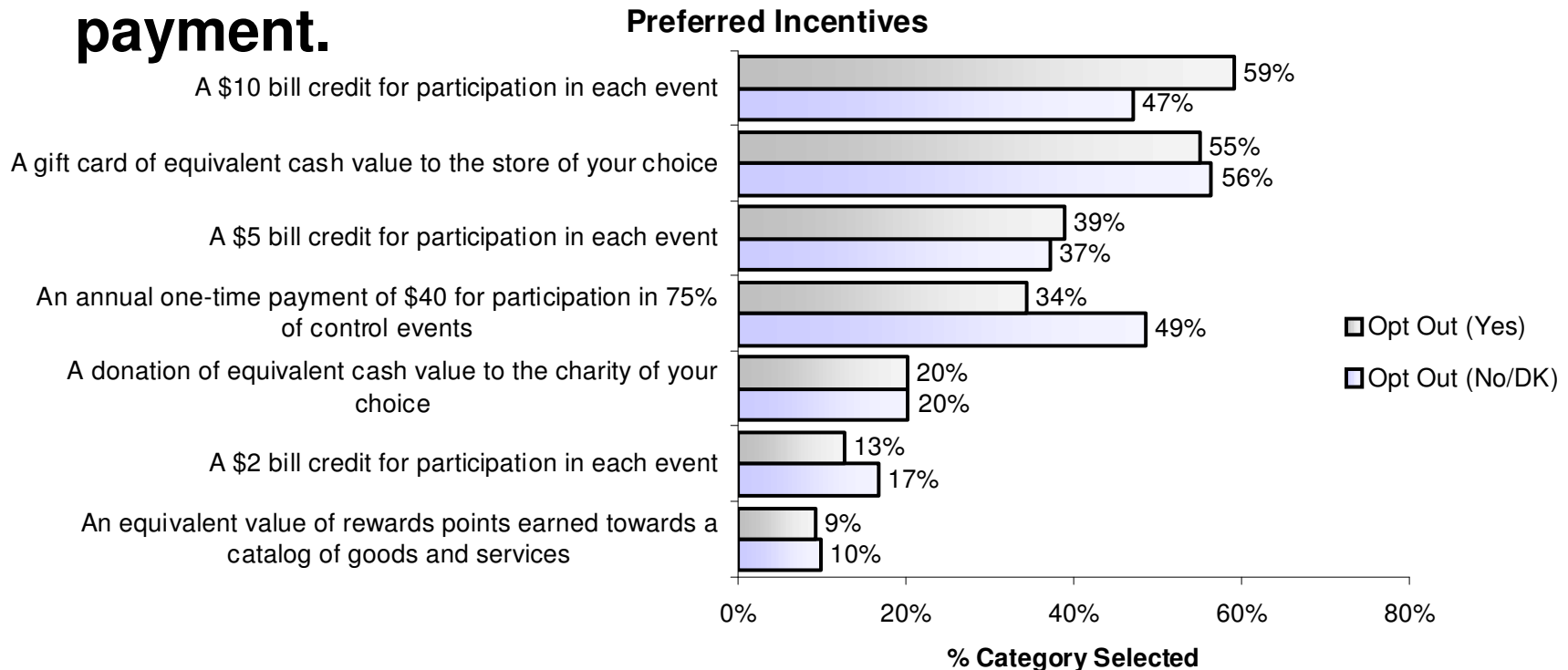
- **“Home is too hot” is the primary complaint of customers that opt out.**
- **Savings potential is potentially viewed as an off set to comfort.**



Opt Out Comparisons

Control Event Incentives

- **Customers that opt out of events have a preference for immediate \$10 credit, as opposed to an annual payment.**



Would any of the following monetary incentives encourage you to participate in more Control Events? (Mark all that apply)
Would you be more likely to participate in Control Events if the incentive were provided in different forms? (Mark all that apply)

