



# CITY OF PALO ALTO UTILITIES: PROCESS EVALUATION OF WASHING MACHINE SMART REBATE PROGRAM

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Prepared by

Gary Cullen, Associate Director  
Michelle Lewis, Consultant



Navigant Consulting, Inc.  
1001 Officers Row  
Vancouver, WA 98661

360-828-4000  
[www.navigant.com](http://www.navigant.com)

## Table of Contents

|   |   |    |
|---|---|----|
| 1 | Process Evaluation Introduction.....                      | 1  |
|   | 1.1 Process Evaluation Objectives.....                    | 1  |
|   | 1.2 Program Sample Size.....                              | 1  |
| 2 | Process Evaluation Results .....                          | 2  |
|   | 2.1 Participant Phone Survey Results.....                 | 2  |
|   | 2.2 Free Ridership .....                                  | 11 |
|   | 2.3 Non-Participant Phone Survey Results.....             | 12 |
|   | 2.4 Process Evaluation Summary.....                       | 17 |
| 3 | Summary of Results and Recommendations .....              | 19 |
|   | 3.1 Summary of Results.....                               | 19 |
|   | 3.2 Recommendations .....                                 | 19 |
| 4 | Appendix A: Participant Phone Survey Instrument.....      | 21 |
| 5 | Appendix B: Non-Participant Phone Survey Instrument ..... | 27 |

# 1 Process Evaluation Introduction

Navigant staff conducted a process review of the City of Palo Alto Utilities (CPAU) washing machine rebate program. This rebate program is a subset of the comprehensive SMART Energy rebate program that is provided by CPAU to its residential customers. The SMART Energy program provides rebates for qualifying energy efficient residential equipment, such as refrigerators, insulation, furnaces, water heaters, dishwashers and washing machines. Residential customers who purchase energy efficient equipment can apply for a rebate by submitting an application form with the specifications of the equipment. Using the link <http://www.cityofpaloalto.org/forms/smartapp/index.html>, this application form can be submitted online or on a paper application. To determine if the equipment is eligible for a rebate from CPAU, customers can reference the CPAU SMART Energy website for a list of qualifying measures. Customers typically receive the rebate in the form of a credit on their utility bill. If the rebate is high enough, customers receive a check. Customers can also receive multiple rebates for the equipment they purchase by applying for both state and federal credits alongside the SMART Energy rebate. Customers may not receive a rebate more than once every five years for a particular technology (such as a washing machine).

CPAU chose to evaluate the washing machine rebate portion of the SMART Energy program to better understand what motivates their customers to buy more efficient clothes washers and to determine how they can better design the program to influence customer choices.

## 1.1 Process Evaluation Objectives

The process evaluation utilized telephone interviews with two groups: participants and non-participants. The participant group consisted of customers who had applied for a washing machine rebate within the last two years and the non-participant group consisted of the entire CPAU customer population. For the participant interviews, Navigant focused on information regarding the purchasing of and rebate process for washing machines. In both interviewed groups, Navigant gathered information regarding program awareness, clothes washing usage information and simple demographic facts.

The survey instruments were designed to be no more than 10 to 15 minutes long and are included in the appendices of this report.

## 1.2 Program Sample Size

In order to perform the phone surveys, Navigant needed to create a population of non-participants and participants. Navigant received the list of all the accounts in CPAU's territory, which was around 24,000 customers. Navigant also received a list of the customers who had processed washing machine rebate applications for the time period between 6/30/2010 to 6/30/2011. From that participant list, Navigant was able to remove 404 participant customers from the complete universe of names to avoid calling individuals for the wrong survey.

In total, Navigant had a list of 587 participants and around 24,000 non-participants from which to make phone survey interviews. To meet the statistical validity of 90/10 for both the participant and non-participant sections, 61 surveys needed to be completed for participants and 68 needed to be completed for non-participants. Due to the difficult nature of the non-participant survey calls, it was decided that the total number of completions would be changed to 31, which meet the statistical validity of 90/15.

## 2 Process Evaluation Results

Navigant staff completed 64 participant surveys and 31 non-participant surveys. During the participant interviews, customers were receptive to completing the phone survey and seemed willing to speak about their experiences with the program. In contrast, non-participant surveys were extremely difficult to complete. Since Navigant staff was calling the entire population of CPAU customers, many surveys were unable to be completed due to the following issues:

- disconnected or wrong numbers,
- non-English speaking residents, and
- individuals who no longer lived in Palo Alto.

In addition, it is hard to make cold call survey interviews in this modern age of cell phones and caller ID, as it is less likely for an individual to answer a call coming from a number they do not recognize. Nevertheless, Navigant staff was able to complete the necessary amount of non-participant interviews to achieve a statistically valid 90/15 confidence interval.

In questions where multiple responses were allowed, the responses were counted individually so the totals are greater than the completed survey totals.

### 2.1 Participant Phone Survey Results

From the customer information given by CPAU, Navigant was able to determine the style of washing machine for each customer. Table 1 shows the amount of front loaders and top loaders for the surveyed participants.

**Table 1: Style of Washing Machine**

| Response | Number | Percentage |
|----------|--------|------------|
| Front    | 38     | 59%        |
| Top      | 26     | 41%        |

Based on the original CPAU data, Table 2 confirms that the washing machines participating in the program were Energy Star. The entries that are coded as “Don’t Know” are from two surveys that were added to the participant list from the non-participant list and this information was not able to be gathered during the interview. These two were switched from non-participant to participant because in the initial telephone screening, it was determined that they had participated in the program

**Table 2: Washing Machine Energy Star Status**

| Response   | Number | Percentage |
|------------|--------|------------|
| Yes        | 62     | 97%        |
| Don’t Know | 2      | 3%         |
| No         | 0      | 0%         |

Table 3 shows whether or not the customer received the rebate from CPAU. The one individual who reported not receiving a rebate said that the credit never appeared on their utility bill.

**Table 3: Rebate Received by Customer**

| Response | Number | Percentage |
|----------|--------|------------|
| Yes      | 63     | 98%        |
| No       | 1      | 2%         |

The majority of respondents indicated, as shown in Table 4, that they were made aware of the SMART Energy program through the retailers at the time of purchase. Those who responded with “Other” all stated that they were made aware of the program because they had participated in the past.

**Table 4: Method of Awareness for SMART Energy Program**

| Response            | Number | Percentage |
|---------------------|--------|------------|
| Retailer            | 28     | 44%        |
| Utility bill insert | 22     | 34%        |
| CPAU Website        | 6      | 9%         |
| Other               | 4      | 6%         |
| DK/REF              | 4      | 6%         |
| Newspaper           | 0      | 0%         |

In Table 5, multiple responses were allowed for all the possible answers, so individuals who had more than one response are counted for each of their choices. The majority of respondents stated that they participated in the program for their washing machine because there was a rebate available, they wanted to save on water and energy, and their old equipment was no longer functioning. In the “Other” category, 3 out of the 5 respondents indicated that they had just moved to a new home and needed a washer. The respondent for “DK/REF” had actually just purchased a washer that day and was currently going through the rebate process.

**Table 5: Reason for Participation in Program**

| Response                                | Number | Percentage |
|---|--------|------------|
| Rebate available                        | 23     | 36%        |
| To lower energy and water consumption   | 22     | 34%        |
| Old equipment was no longer functioning | 17     | 27%        |
| To reduce utility bill                  | 5      | 8%         |
| Other, specify:                         | 5      | 8%         |
| Remodeling home                         | 3      | 5%         |
| DK/REF                                  | 1      | 2%         |

Table 6 indicates whether or not the customer has received multiple rebates from the SMART Energy program. Half of the individuals stated they had not participated in the program before. Of those who have received rebates for other appliances, 36% said they got a rebate for their refrigerator. Two of the respondents answered the question in terms of if they received additional rebates from other sources, not additional SMART Energy rebates.

**Table 6: Received More than One SMART Energy Rebate**

| Response       | Number | Percentage |
|----------------|--------|------------|
| No             | 32     | 50%        |
| Yes            | 22     | 34%        |
| Don't Remember | 8      | 13%        |
| DK/REF         | 2      | 3%         |

  

| If Yes, What Rebates were Received? | Number | Percentage |
|-------------------------------------|--------|------------|
| Refrigerator                        | 8      | 36%        |
| Furnace                             | 2      | 9%         |
| Dishwasher                          | 2      | 9%         |
| Don't Remember                      | 2      | 9%         |
| One each from the State and City    | 2      | 9%         |
| Low Flow Toilets                    | 2      | 9%         |
| Washer/Dryer                        | 1      | 5%         |
| Windows                             | 1      | 5%         |
| Insulation                          | 1      | 5%         |

Table 7 shows that the CPAU records are correct for washing machine types per the surveyed sample.

**Table 7: CPAU Records Correct for Washer Type**

| Response | Number | Percentage |
|----------|--------|------------|
| Yes      | 64     | 100%       |
| No       | 0      | 0%         |

For the majority of participants, as shown in Table 8, the main reasons for choosing the washer they purchased was because it had the features they needed or wanted and that it was a good value. The respondents who chose “Other” said they got their reason from consumer online reports.

**Table 8: Reason for Model Selection**

| <b>Response</b>                      | <b>Number</b> | <b>Percentage</b> |
|--------------------------------------|---------------|-------------------|
| Had the features I wanted            | 19            | 30%               |
| Good value/in price range            | 18            | 28%               |
| Costs less to operate/water savings  | 9             | 14%               |
| Costs less to operate/energy savings | 8             | 13%               |
| Retailers recommended it             | 8             | 13%               |
| Right size/color                     | 8             | 13%               |
| Wanted the brand/Was Energy Star     | 5             | 8%                |
| Other, specify                       | 5             | 8%                |
| Good for environment                 | 3             | 5%                |
| There was a rebate for it            | 2             | 3%                |
| Only choice at the time              | 0             | 0%                |

Table 9 shows that 75% of old washers were inoperable and disposed of by the surveyed customers. Of those respondents, most indicated that they either recycled the washer or when the new washer was delivered (mainly by Sears), the old washer was taken away and disposed of properly. Those who responded with “Other” stated that their washer wasn’t inoperable but they wanted the model that matched their dryer or that they just wanted to upgrade to a newer machine.

**Table 9: Old Washer Status**

| <b>Response</b>                      | <b>Number</b> | <b>Percentage</b> |
|--------------------------------------|---------------|-------------------|
| Old washer inoperable and disposed   | 48            | 75%               |
| Did not have an old washer           | 6             | 9%                |
| Gave it away to a friend or relative | 5             | 8%                |
| Other, specify                       | 3             | 5%                |
| Gave it to charity                   | 2             | 3%                |
| Sold it                              | 0             | 0%                |
| DK/REF                               | 0             | 0%                |

Over 50% of surveyed old washers were more than 11 years of age, as shown in Table 10. This indicates that most individuals who are participating in the program are replacing older, less functional equipment rather than the early replacement of functioning equipment.

**Table 10: Age of Old Washer**

| <b>Response</b>            | <b>Number</b> | <b>Percentage</b> |
|----------------------------|---------------|-------------------|
| 16 years or older          | 23            | 36%               |
| 11 to 15 years             | 16            | 25%               |
| 6 to 10 years              | 11            | 17%               |
| Did not have an old washer | 6             | 9%                |
| 2 to 5 years               | 3             | 5%                |
| Less than 2 years          | 0             | 0%                |
| DK/REF                     | 0             | 0%                |

In Table 11, the highest percentage of responses are for the “Other” category because more than 50% of individuals said they had done their research through consumer reports and general online searching, which did not fit any of the other response categories that we had designated in our survey. More than 35% of respondents said they were influenced by retailers during their purchasing process.

**Table 1: Research for Washing Machine Purchase**

| <b>Response</b>          | <b>Number</b> | <b>Percentage</b> |
|--------------------------|---------------|-------------------|
| Other, Specify           | 37            | 58%               |
| Retailers/sales person   | 23            | 36%               |
| friend/neighbor/relative | 5             | 8%                |
| CPAU website             | 3             | 5%                |
| Energy Star Website      | 2             | 3%                |
| Don't remember           | 1             | 2%                |
| Didn't do any research   | 0             | 0%                |
| DK/REF                   | 0             | 0%                |



Table 12 shows that the rebated washing machines were mostly purchased in big box stores, appliance stores and home improvement stores. None of respondents indicated that they had purchased washing machines online. The influence of retailers on program participation by suggesting the purchasing of qualifying washers will be important to increasing program applications.

**Table 12: Location of Washer Purchase**

| Response               | Number | Percentage |
|------------------------|--------|------------|
| Big box                | 30     | 47%        |
| Appliance store        | 20     | 31%        |
| Home improvement store | 12     | 19%        |
| Hardware store         | 3      | 5%         |
| DK/REF                 | 1      | 2%         |
| Brand retailer         | 0      | 0%         |
| Internet               | 0      | 0%         |
| Other, Specify         | 0      | 0%         |

Table 13 shows that retailers have the most influence on assisting customers to figure out if the washer they are purchasing is eligible for a SMART Energy rebate.

**Table 13: Determining if Washer is Eligible for Rebate**

| Response                              | Number | Percentage |
|---------------------------------------|--------|------------|
| Retailers/sales person/tag on machine | 34     | 53%        |
| CPAU website                          | 12     | 19%        |
| Energy Star Website                   | 4      | 6%         |
| Other, specify:                       | 4      | 6%         |
| Energy Star Calculator                | 1      | 2%         |
| CEE Tier ratings research             | 0      | 0%         |

Table 14 shows that most customers did not notice another rebate at the time of purchase. Those who did participate in other rebate programs stated they participated in state, county and retailer rebates.

**Table 14: Other Rebates Available at Time of Purchase**

| Response       | Number | Percentage |
|----------------|--------|------------|
| No             | 39     | 61%        |
| Yes            | 9      | 14%        |
| Don't Remember | 4      | 6%         |
| DK/REF         | 3      | 5%         |

  

| If Yes, what were the rebates? | Number | Percentage |
|--------------------------------|--------|------------|
| Santa Clara County             | 3      | 33%        |
| PG&E                           | 2      | 22%        |
| Retailer                       | 2      | 22%        |

|       |   |     |
|-------|---|-----|
| State | 2 | 22% |
|-------|---|-----|

### Usage Questions

A total of 77% of the surveyed customers reported doing more than 3 loads of laundry a week, as show in Table 15. Of that group, 25% reported doing 6 or more loads of laundry a week, which can be categorized as high usage. This is important for developing the washing machine rebate program to target these high usage groups, as they will benefit the most from the energy savings.

**Table 15: Loads of Laundry in a Week**

| Response  | Number | Percentage |
|-----------|--------|------------|
| 3 to 5    | 33     | 52%        |
| 6 or more | 16     | 25%        |
| 0 to 2    | 15     | 23%        |
| DK/REF    | 0      | 0%         |

Close to 85% of the surveyed customers live in detached single family homes, as indicated in Table 16. Only 5% live in apartments, which seems logical as most individuals living in apartments are renting and cannot make equipment purchasing decisions.

**Table 16: Type of Dwelling**

| Response                              | Number | Percentage |
|---------------------------------------|--------|------------|
| Single family (detached)              | 54     | 84%        |
| Single family (attached/condo/duplex) | 9      | 14%        |
| Apartment                             | 3      | 5%         |
| Mobile home/manufactured home         | 0      | 0%         |
| DK/REF                                | 0      | 0%         |

Table 17 elaborates on the type of dwelling information as it indicates that 94% of individuals own their residence. This shows that most rebated equipment purchasing occurs in residences where the person owns the home.

**Table 17: Ownership Status of Dwelling**

| Response | Number | Percentage |
|----------|--------|------------|
| Own      | 60     | 94%        |
| Rent     | 4      | 6%         |
| DK/REF   | 0      | 0%         |

## Process Questions

In Table 18, customer satisfaction with the rebate program is shown. A total of 75% of the surveyed population stated they were “Very Satisfied” with the program, which is a great success rate. Those who were not satisfied stated the following reasons: they didn’t receive the rebate, they had to contact CPAU to find out if the rebate was applied to their account, and that it took a while to get the rebate.

**Table 18: Program Satisfaction**

| Response              | Number | Percentage |
|-----------------------|--------|------------|
| Very satisfied        | 48     | 75%        |
| Somewhat satisfied    | 6      | 9%         |
| DK/REF                | 5      | 8%         |
| Very dissatisfied     | 3      | 5%         |
| Somewhat dissatisfied | 2      | 3%         |

In Table 19, 33% of customers said that the rebate helped them to purchase a more efficient washer. Additionally, 14% of respondents said “Don’t Know” for if the rebate influenced their decision on which washer to purchase. This higher than expected percentage potentially occurred because the participant was taking this question to signify whether receiving the rebate influenced their decision to fill out the rebate form rather than buy an energy efficient washer.

**Table 19: Influence of Rebate on Washer Purchase**

| Response  | Number | Percentage |
|---|--------|------------|
| Yes, somewhat (customer was undecided about how efficient of a washer to get and the rebate helped them decide)   | 21     | 33%        |
| Yes, slightly (customer would have bought an efficient washer anyway but wanted the rebate for the “free money”). | 15     | 23%        |
| No  | 13     | 20%        |
| DK/REF  | 9      | 14%        |
| Yes, significantly (customer only bought a higher efficiency washer because of it).                               | 6      | 9%         |

When respondents were asked if a higher rebate would have influenced them to change the type of washer they purchased, as shown in Table 20, there was almost an even split between all three possible responses. The main reasons that people said that a higher rebate would not have influenced them to purchase a more energy efficient washer are: they believed they purchased the most efficient model that was available, they bought the model that they could afford at the time, they had specific space/brand needs so bought the one that met those requirements and, they feel the rebate is just enough to cover the cost and giving more money would be a waste.

**Table 20: High Rebate Influence on Washer Type Purchase**

| Response          | Number | Percentage |
|-------------------|--------|------------|
| Yes               | 23     | 36%        |
| No, because _____ | 22     | 34%        |
| Can't decide      | 19     | 30%        |

Table 21 shows that 84% of the respondents are satisfied with the rebate process and rebate form. One of the respondents for “Don’t Know” stated that they never filled out the rebate form. It is possible that the retailer completed the application for the individual at time of purchase.

**Table 21: Satisfaction with Rebate Form Detail and Length**

| Response | Number | Percentage |
|----------|--------|------------|
| Yes      | 54     | 84%        |
| DK/REF   | 6      | 9%         |
| No       | 4      | 6%         |

In Table 22, more than half of the respondents said that they delivered their rebate applications via the mail. The next largest group said they completed the form online. One person in “Other” said they couldn’t remember which method was chosen because they gave the form to salesperson to complete.

**Table 22: Method of Rebate Application Delivery**

| Response        | Number | Percentage |
|-----------------|--------|------------|
| Mail            | 41     | 64%        |
| Online          | 12     | 19%        |
| DK/REF          | 6      | 9%         |
| Other, specify  | 3      | 5%         |
| Office drop off | 2      | 3%         |
| Fax             | 0      | 0%         |

Table 23 shows that most individuals would like to learn more about the program from information in their utility bill. The two other popular modes of information are online and from the retailer.

**Table 23: Best Way to Learn More about the Program**

| Response            | Number | Percentage |
|---------------------|--------|------------|
| Utility Bill        | 34     | 53%        |
| Online/CPAU Website | 17     | 27%        |
| Retailer            | 14     | 22%        |
| Email               | 6      | 9%         |
| Newspaper           | 3      | 5%         |
| Don't Know          | 1      | 2%         |

A total of 95% of the surveyed population said they would re-participate in the program, as shown in Table 24. Those who said they did not want to participate again were individuals that never received the rebate or are dissatisfied with the rebate process.

**Table 24: Re-participate in Program**

| Response | Number | Percentage |
|----------|--------|------------|
| Yes      | 61     | 95%        |
| DK/REF   | 2      | 3%         |
| No       | 1      | 2%         |

## 2.2 Free Ridership

Free riders are defined as program participants who would have undertaken an activity, regardless of the presence of a program promoting that activity. In the phone survey, two questions were asked of participants to identify if they were already planning on purchasing a washing machine before hearing about the program and if their participation in the program changed their original purchasing intentions. These questions probe at the source of free-ridership and the results are provided in Table 25.

Navigant estimates the rate of free-ridership for the washing machine rebate program to be 43%. This is calculated by multiplying the 86% who said they were already intending to purchase a washing machine times the 50% of the individuals who said that hearing about the rebate did not influence their purchasing decision.

**Table 25: Before Hearing about the Program, were you planning on purchasing a washing machine?**

| Were you already planning on purchasing a washing machine? | Number | Percentage |
|--|--------|------------|
| Yes  | 55     | 86%        |
| No   | 7      | 11%        |
| DK/REF   | 2      | 3%         |
| Don't Remember   | 0      | 0%         |

**Follow up to those “Already planning to purchase washer”**

| <b>Did hearing about program change what type of washer you purchased?</b> | <b>Number</b> | <b>Percentage</b> |
|--|---------------|-------------------|
| No   | 32            | 50%               |
| Yes, purchased a more EE one   | 23            | 36%               |
| Don't Remember   | 0             | 0%                |
| DK/REF   | 0             | 0%                |

### 2.3 Non-Participant Phone Survey Results

More than 70% of the surveyed non-participants said they were familiar with the SMART Rebate program and its offering, as displayed in Table 26.

**Table 26: Familiar with SMART Energy Program**

| <b>Response</b> | <b>Number</b> | <b>Percentage</b> |
|-----------------|---------------|-------------------|
| Yes             | 22            | 71%               |
| No              | 8             | 26%               |
| NA/REF          | 1             | 3%                |
| Don't Remember  | 0             | 0%                |

Table 27 only shows the respondents that said “YES” to having been familiar with the SMART Energy program, which was a total of 25 individuals. Of those familiar with the program, about half have previously participated and about half have not.

**Table 27: Previously Participated in SMART Energy Program**

| <b>Response</b> | <b>Number</b> | <b>Percentage</b> |
|-----------------|---------------|-------------------|
| Yes             | 12            | 48%               |
| No              | 12            | 48%               |
| NA/REF          | 1             | 4%                |
| Don't Remember  | 0             | 0%                |

Table 28 shows that, similar to the participant surveys, the most rebated measure by those who had previously participated in the SMART Energy program is refrigerators. The individual who received a rebate for a washer got it more than 3 years ago, so was still qualified as a non-participant. During the interviews, one individual did receive a rebate for a washer recently, and this person was coded as a participant.

**Table 28: If previously participated, what rebates did you get?**

| Response                         | Number | Percentage |
|----------------------------------|--------|------------|
| Refrigerator                     | 7      | 50%        |
| Furnace or boiler                | 2      | 14%        |
| Water heater                     | 2      | 14%        |
| Washing machine                  | 1      | 7%         |
| Dishwasher                       | 1      | 7%         |
| Don't know                       | 1      | 7%         |
| Air conditioner                  | 0      | 0%         |
| Solar Attic fan                  | 0      | 0%         |
| Smart power strips               | 0      | 0%         |
| Pool pump                        | 0      | 0%         |
| Insulation for attic, roof/walls | 0      | 0%         |
| DK/REF                           | 0      | 0%         |

Most individuals said they did not want to learn more about the program, as Table 29 illustrates. The main reasons that individuals stated for not wanting to receive more information is because they recently bought a new washer or are not in the market for new equipment or are already aware enough of the program from the information they've received from CPAU. Of those who wanted to learn more about the program said they would like to receive information via the internet and a brochure in the mail.

**Table 29: Would you like to hear more about the program?**

| Response | Number | Percentage |
|----------|--------|------------|
| No       | 19     | 61%        |
| Yes      | 12     | 39%        |
| NA/REF   | 0      | 0%         |

| If YES, how would you like to learn more? | Number | Percentage |
|---|--------|------------|
| Brochure in mail                          | 7      | 55%        |
| Internet site                             | 6      | 45%        |
| From retailer                             | 0      | 0%         |
| Other                                     | 0      | 0%         |

Table 30 shows that 61% of the respondents were aware that they could receive a rebate for a qualifying washing machine through the SMART Energy program.

**Table 30: Awareness of Washing Machine Rebate from SMART Program**

| Response   | Number | Percentage |
|------------|--------|------------|
| Yes        | 19     | 61%        |
| No         | 10     | 32%        |
| Don't Know | 2      | 7%         |

Table 31 illustrates that 35% of the current washers are between 6 to 10 years old and 23% of the washers are less than 2 year old. This indicates that most of the washers in the population are ready to be retired and, therefore, there is potential for an increase in the washer rebate program.

**Table 31: Age of Current Washer**

| Response             | Number | Percentage |
|----------------------|--------|------------|
| 6 to 10 years        | 11     | 35%        |
| Less than 2 years    | 7      | 23%        |
| 2 to 5 years         | 5      | 16%        |
| 11 to 15 years       | 5      | 16%        |
| 16 years or older    | 2      | 6%         |
| DK/REF               | 1      | 3%         |
| Do not have a washer | 0      | 0%         |

Table 32 shows that almost all of the respondents said that their current washer is working well. This may slow potential participation in the washer program, but will not deter individuals from considering the program when their washer no longer works.

**Table 32: Is Current Washer working well?**

| Response   | Number | Percentage |
|------------|--------|------------|
| Yes        | 30     | 97%        |
| No         | 1      | 3%         |
| Don't Know | 0      | 0%         |



Table 33 reinforces the potential for program participation as 77% of the respondents said they would consider the rebate program when their washer needs to be replaced. There were no solid answers given for why an individual would not participate in the rebate program.

**Table 33: When you replace your washer, will you participate in the rebate program?**

| Response   | Number | Percentage |
|------------|--------|------------|
| Yes        | 24     | 77%        |
| Don't Know | 3      | 13%        |
| No         | 4      | 10%        |

In Table 34, multiple responses were noted for each respondent and are counted independently in the results for how the customers perform research on potential equipment purchases. The results for non-participants mirror those for participants as 71% of the surveyed residents said that they perform general online research and read consumer reports. These responses were coded as "Other" because they did not fit any of the other response categories that we had designated in our survey

**Table 34: Equipment Purchasing Research**

| Response                 | Number | Percentage |
|--------------------------|--------|------------|
| Other, Specify           | 22     | 71%        |
| Retailers/sales person   | 6      | 19%        |
| friend/neighbor/relative | 6      | 19%        |
| CPAU website             | 1      | 3%         |
| DK/REF                   | 1      | 3%         |
| Don't research           | 0      | 0%         |
| Don't remember           | 0      | 0%         |
| Energy Star Website      | 0      | 0%         |

In Table 35, multiple responses were noted for each respondent and are counted independently in the results for what customers consider when purchasing new equipment. The most prevalent responses, accounting for 87% of the answers, were a good value and low operation costs. This indicates that customers are considering both the initial cost and the payback potential of their new equipment above other criteria. The responses that are coded as “Other” are referred to referencing consumer reports and the guarantee that comes with the machine at time of purchase. One individual had never had to make an equipment purchasing decision before.

**Table 35: Equipment Purchasing Considerations**

| <b>Response</b>                             | <b>Number</b> | <b>Percentage</b> |
|---|---------------|-------------------|
| Good value/in price range                   | 16            | 52%               |
| Costs less to operate/gas and water savings | 11            | 35%               |
| Wanted features                             | 10            | 32%               |
| Retailers recommendations                   | 3             | 10%               |
| Other, specify                              | 3             | 10%               |
| Good for environment                        | 2             | 6%                |
| Rebate available                            | 2             | 6%                |
| Right size/color                            | 2             | 6%                |
| Wanted brand                                | 1             | 3%                |
| Energy Star                                 | 1             | 3%                |
| Available at the time of purchase           | 1             | 3%                |

### Usage Questions

Table 36 indicates that respondents wash around 3 to 5 loads of laundry a week. This is considered average usage for a single family home.

**Table 36: Loads of Laundry in a Week**

| <b>Response</b> | <b>Number</b> | <b>Percentage</b> |
|-----------------|---------------|-------------------|
| 3 to 5          | 14            | 45%               |
| 0 to 2          | 12            | 39%               |
| 6 or more       | 4             | 13%               |
| DK/REF          | 1             | 3%                |

Table 37 shows that 97% of the surveyed residents live in a single family home that is either detached or attached. The respondent that is coded as “DK/REF” was an older individual that was hard of hearing and unable to respond to the question.

**Table 37: Type of Dwelling**

| Response                              | Number | Percentage |
|---------------------------------------|--------|------------|
| Single family (detached)              | 27     | 87%        |
| Single family (attached/condo/duplex) | 1      | 10%        |
| Apartment                             | 0      | 0%         |
| Mobile home/manufactured home         | 0      | 0%         |
| DK/REF                                | 1      | 3%         |

Table 38 shows the majority of customers surveyed, a total of 90%, own their place of residence. The respondent that is coded as “DK/REF” was an older individual that was hard of hearing and unable to respond to the question.

**Table 38: Ownership Status of Dwelling**

| Response | Number | Percentage |
|----------|--------|------------|
| Own      | 28     | 90%        |
| Rent     | 2      | 6%         |
| DK/REF   | 1      | 3%         |

## 2.4 Process Evaluation Summary

Overall, the phone surveys provided good feedback and general information about the washing machine rebate provided through the SMART Energy program. The participant phone calls went smoothly as individuals were quite willing to give feedback about their experience with the program and even, on occasion, called Navigant staff to complete the interview. The non-participant surveys were much more difficult to complete due to the mass amount of the population having disconnected phone numbers, not able to speak English, or no longer living in Palo Alto.

Navigant estimates free-ridership to be relatively high with a value of 43%. The estimate is based on the total of 86% of participants were already planning on purchasing a washing machine before they heard about the program and of these 86%, 50% said that hearing about the program did not change their minds as to which washer they were going to purchase. Conversely, a total of 36% of respondents said that hearing about the program did persuade them to purchase a more energy efficient washing machine.

During the non-participant interviews, it became apparent that when Navigant staff asked the question about SMART Energy Program awareness, many individuals did not recognize the program name with the rebate offerings. Most individuals had to have the program explained to them before they said that they were aware of the program or recall that they had participated in the past. Some respondents even asked if the program had to do with Smart Grid technology. To increase non-participant familiarity with

the SMART Energy program, it may be necessary to do increased marketing beyond bill inserts, brochures, web information and workshops to increase the correlation between the rebate offerings and the program name.

At the conclusion of the phone survey, respondents were asked to give suggestions for program improvement. Many respondents relayed that they were satisfied with the program and did not have any suggestions to offer. Of the respondents that did offer their input, most suggested having an easier rebate form and potentially an online rebate submission that allows for residents to track their rebate process. Another suggestion was to increase the awareness of the program and its offerings by including information in the utility bill. However, it should be noted that CPAU includes information about the program in the utility bills about every two months and that an online rebate application is available at <http://www.cityofpaloalto.org/forms/smartapp/index.html>.

## 3 Summary of Results and Recommendations

### 3.1 Summary of Results

Notable conclusions from the participant interviews:

- The majority of respondents stated that they participated in the program for their washing machine because there was a rebate available, they wanted to save on water and energy and their old equipment was no longer functioning.
- Overall satisfaction is high with 75% of participant respondents choosing 'Very Satisfied.'
- 95% of respondents said they would participate in the program again.
- A total of 77% of the surveyed customers reported doing more than 3 loads of laundry a week and 25% of customers reported doing 6 or more loads a week.
- Free-ridership is somewhat high among participants at a rate of 43%. A total of 50% of individuals who were already going to purchase a washing machine stating that hearing about the program did not change their minds as to which washer they intended to buy.

Notable conclusions from the non-participant interviews:

- Many respondents could not correlate the SMART Energy program names with the appliance rebates from CPAU and had to have the program explained.
- 77% of non-participants said they would consider applying for a rebate when they purchase a new washing machine.

### 3.2 Recommendations

Overall, the washing machine rebate program is very well received by those who have participated. As noted earlier, CPAU already includes information regarding the program in the utility bills about every two months and the application is available at all times on-line. Awareness may be increased by making at least some mention of the program with the rebate form on-line link a permanent fixture in the utility bills. Working more with local retailers to ensure they are promoting the rebate and identifying the models that qualify would also be useful. This effort with local retailers may already be occurring but a review of the effectiveness of the current effort may be needed.

Most of the unsatisfied respondents (only 8% of respondents indicated dissatisfaction) indicated a level of uncertainty about whether the rebate had been applied to their bill. In the billing process, this uncertainty may be reduced if the rebate is clearly highlighted (if it is not already) on the bill and timing this billing confirmation with an email confirmation.

For some of the non-participants, correlating the name of the program with the services it provided was difficult and some even presumed that the SMART Energy program was affiliated with Smart Grid technology. With Smart Grid technology becoming more prevalent in the media and in potential utility programs, it may be beneficial to refresh the SMART Energy program branding so that potential participants are not confused about the offerings.

Navigant recommends that CPAU continue the washing machine rebate within the SMART Energy program, but CPAU should be mindful of the high percentage of free-riders. Though free-ridership is high within the program, the majority of non-participants stated that their washing machine is 6 years or

older and 77% of non-participants said they would consider applying for a rebate for a qualifying washer when their current washer no longer works. With the high amount of aging washing machines in the population, the program will still be beneficial for influencing those non-participants who may soon be looking to replace their washing machine.

## 4 Appendix A: Participant Phone Survey Instrument

### City of Palo Alto – Washing Machine SMART Energy Program Participant Survey

*Are you the resident who received the rebate for the washing machine?*

**If No,**

**Option 4: Was the person who received the rebate someone else in your household?**

**If YES:** Are you able to answer questions about the washing machine and rebate process?  
**Q1)**

**[IF NO, get who is the best person to speak with, and when should I get in touch?]**

**Name:** \_\_\_\_\_

**Callback Date/Time:** \_\_\_\_\_

*Q1. How did you hear about the SMART energy rebate program?*

- 1 - Utility bill insert
- 2 - Newspaper
- 3 - CPAU Website
- 4 - Retailer
- 5 - Other, Specify: \_\_\_\_\_
- 9 - DK/REF

*Q2. Why did you choose to participate in the rebate program for your washing machine?*

- 1 - To lower energy and water consumption
- 2 - To reduce utility bill
- 3 - Old equipment was no longer functioning
- 4 - Remodeling home
- 5 - Rebate available
- 6 - Other, specify: \_\_\_\_\_
- 9 - DK/REF

*Q3. Have you received more than one rebate from the SMART Energy Program?*

- 1 - YES
- 2 - NO
- 3 - Don't Remember
- 9 - DK/REF

**Q3a.** *If YES, what rebates did you receive?*

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**Q4.** *According to Palo Alto's rebate records, you purchased [Samsung, front loading machine]. Is this correct?*

1 - YES

2 - NO

3 - Don't remember

**Q4a.** *If NOT ----->What type of washer did you purchase?*

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**Q4b.** *Why did you select this model?*

1 - Good value/in price range

2 - There was a rebate for it

3 - Costs less to operate/energy savings

4 - Costs less to operate/water savings

5 - Good for environment

6 - Only choice at the time

7 - Retailers recommended it

8 - Had the features I wanted

9 - Right size/color

10 - Wanted the brand

11 - Was Energy Star

12 - Other, specify \_\_\_\_\_

**Q5.** *What happened to your old washer?*

1 - Did not have an old washer

2 - Old washer inoperable and disposed of

3 - Gave it away to a friend or relative

4 - Gave it to charity

5 - Sold it

6 - Other, specify \_\_\_\_\_

9 - DK/REF



**Q6.** *About how old was your old washer?*

- 1 – Did not have an old washer
- 2 – Less than 2 years
- 3 – 2 to 5 years
- 4 – 6 to 10 years
- 5 – 11 to 15 years
- 6 – 16 years or older
- 9 – DK/REF

**Q7.** *When you were purchasing your new washing machine, where did you research the information about what to buy?*

- 1 - Retailers/sales person
- 2 – friend/neighbor/relative
- 3 – CPAU website
- 4 – Energy Star Website
- 5 – Didn't do any research
- 6 – Other, Specify \_\_\_\_\_
- 7 – Don't remember
- 8 – DK/REF

**Q8.** *Where did you purchase your washing machine?*

- 1 - Big box
- 2 - Appliance store
- 3 - Home improvement store
- 4 - Brand retailer
- 5 - Hardware store
- 6 – Internet
- 7 – Other, Specify \_\_\_\_\_
- 9 - DK/REF

**Q9.** *When you selected the washing machine that you wanted to purchase, how did you determine that the washer model was eligible for the SMART Program rebate?*

- 1 - Retailers/sales person
- 2 - CPAU website
- 3 - Energy Star Website
- 4 – Energy Star Calculator
- 5 – CEE Tier ratings research
- 6 – Other, specify: \_\_\_\_\_

**Q10.** *Were there any other rebates available when you purchased your washing machine?*

- 1 - Yes
- 2 - No
- 3 – Don't remember
- 9 - DK/REF

**Q10a.** *If YES, who was offering the rebate?* \_\_\_\_\_

*Q11. Before you heard about the SMART rebate program, were you planning on purchasing a new washer?*

- 1 - Yes
- 2 - No
- 3 - Don't remember
- 9 - DK/REF

*Q11a. If YES, did hearing about the program change your mind about what kind of washer you were going to buy?*

- 1 - Yes, purchased a more efficient washer
- 2 - No
- 3 - Don't remember
- 9 - DK/REF

### **USAGE QUESTIONS**

*Q12. How many loads of laundry do you do during the week?*

- 1 - 0 to 2
- 2 - 3 to 5
- 3 - 6 or more
- 9 - DK/REF

*Q13. What type of dwelling do you live in?*

- 1 - Single family (detached)
- 2 - Single family (attached/condo/duplex)
- 3 - Apartment
- 4 - Mobile home/manufactured home
- 9 - DK/REF

*Q14. Do you own or rent where you live?*

- 1 - Own
- 2 - Rent
- 9 - DK/REF

### **PROCESS QUESTIONS**

*Q15. Overall, how satisfied or dissatisfied are you with the SMART Energy rebate process? Are you...*

- 1 - Very satisfied,
- 2 - Somewhat satisfied,
- 3 - Somewhat dissatisfied, or
- 4 - Very dissatisfied?
- 9 - DK/REF

*Q15a. If not satisfied, why not?*

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**Q16.** *Did receiving the rebate influence your participation in the program?*

- 1 – Yes, significantly (customer only bought a higher efficiency washer because of it).
- 2 – Yes, somewhat (customer was undecided about how efficient of a washer to get and the rebate helped them decide)
- 3 – Yes, slightly (customer would have bought an efficient washer anyway but wanted the rebate for the “free money”).
- 4 - No

**Q17.** *Would a higher rebate for a more efficient model influence your decision to purchase the more efficient model?*

- 1 – Yes
- 2- No, because \_\_\_\_\_
- 3 – Can’t decide

**Q18.** *Did you find the rebate form to be reasonable in terms of level of detail and requirements?*

- 1 - YES
- 2 - NO
- 9 - DK/REF

**Q18a.** *What method of delivery did you choose for your rebate form?*

- 1 – Mail
- 2 – Online
- 3 – Office drop off
- 4 – Fax
- 5 – Other, specify \_\_\_\_\_

**Q19.** *What would be the best way for you to learn more about the program? Meaning, how would you like to hear about it and who would you like to hear it from?*

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**Q20.** *If you had it to do over again, would you choose to participate in this program?*

- 1 - YES
- 2 - NO
- 9 - DK/REF

**Q21.** *What is one suggestion would you offer to improve this program?*

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99 - DK/REF



## 5 Appendix B: Non-Participant Phone Survey Instrument

### City of Palo Alto – Washing Machine SMART Energy Program Non Participant Survey

**Q1.** To start off, are you familiar with the SMART energy rebate program from CPAU?

- 1 – YES (MOVE TO QUESTION 2)
- 2 – NO (MOVE TO QUESTION 3)
- 3 - Don't Remember
- 9 - DK/REF

**Q2.** Have you ever participated in the SMART Energy Program?

- 1 - YES
- 2 – NO
- 3 – Don't remember
- 9 - DK/REF

**Q2a.** If YES, what did you receive a rebate for?

- 1 – Washing machine
- 2 – Refrigerator
- 3 – Dishwasher
- 4 – Smart power strips
- 5 – Furnace or boiler
- 6 – Air conditioner
- 7 – Solar Attic fan
- 8 – Water heater
- 9 – Pool pump
- 10 – Insulation for attic, roof/walls
- 11 – Don't know
- 12 – DK/REF

**Q2b.** If YES to receiving a washer, you indicated that you received a rebate for a washing machine, how long ago was that?

- 1 – 2 years to present
- 2 – 3 years or more

**Q3.** Would you like to learn more about the program?

- 1 - YES
- 2 – NO
- 9 - DK/REF

**Q3a. If NO, why not?**

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**Q3b. If YES, How would you like to learn more about the program?**

- 1 – Brochure in mail
- 2 – Internet site
- 3 – From retailer
- 4 – Other, specify \_\_\_\_\_

**Q4. Are you aware that you can get a rebate for a new, energy efficient clothes washer through the program?**

- 1 – Yes
- 2 – No
- 9 – Don't know

**Q5. About how old is your current clothes washer?**

- 1 – Do not have a washer
- 2 – Less than 2 years
- 3 – 2 to 5 years
- 4 – 6 to 10 years
- 5 – 11 to 15 years
- 6 – 16 years or older
- 9 – DK/REF

**Q6. Is your current washing machine working well?**

- 1 – Yes
- 2 – No
- 9 – Don't know

**Q7. When you replace your washing machine, do you think you will participate in the program and receive a rebate?**

- 1 – Yes
- 2 – No
- 9 – Don't know

**Q7a. If NO, why not?**

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**Q8.** Before you make equipment purchases, where did you research the information about what to buy?

- 1 - Retailers/sales person
- 2 - friend/neighbor/relative
- 3 - CPAU website
- 4 - Energy Star Website
- 5 - Other, Specify \_\_\_\_\_
- 6 - Don't research
- 7 - Don't remember
- 9 - DK/REF

**Q9.** When you make equipment purchases, what do you consider?

- 1 - Good value/in price range
- 2 - Rebate available
- 3 - Costs less to operate/gas and water savings
- 4 - Good for environment
- 5 - Available at the time of purchase
- 6 - Retailers recommendations
- 7 - Wanted features
- 8 - Right size/color
- 9 - Wanted brand
- 10 - Energy Star
- 11 - Other, specify \_\_\_\_\_

### **USAGE QUESTIONS**

**Q10.** How many loads of laundry do you do during the week?

- 1 - 0 to 2
- 2 - 3 to 5
- 3 - 6 or more
- 9 - DK/REF

**Q11.** What type of dwelling do you live in?

- 1 - Single family (detached)
- 2 - Single family (attached/condo/duplex)
- 3 - Apartment
- 4 - Mobile home/manufactured home
- 9 - DK/REF

**Q12.** Do you own or rent where you live?

- 1 - Own
- 2 - Rent

9 – DK/REF