

Outreach Plan for the Collection of Mercury Added Thermostats in California

Presented to
California Department
of Toxic Substances Control (DTSC)

Submitted by
Thermostat Recycling Corporation (TRC)

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Introduction

S. Groner Associates, Inc. (SGA) was tasked by Thermostat Recycling Corporation (TRC) to spread awareness about and influence behavior regarding the proper disposal of mercury-added thermostats (hereafter referred to as mercury thermostats) via recycling in California in order to prevent the release of mercury into the environment. This Program is comprised of three sequential parts: a) outreach along with effective messaging that may generate the collection of mercury thermostats, b) pilot planning and creation and implementation of pilot programs that assess the effectiveness of the use of monetary incentives and other forms of motivators (non-monetary incentives) to increase Program participation and the number of mercury thermostats collected, and c) development of a specific proposal to modify the Program based on the results of implementation of both the Outreach Plan and Pilot Plan.

(NOTE: For best understanding of the overall Program, read the Outreach Plan first, followed by the Pilot Project Plan.)

Approach to Overall Program Design

The overriding goal of this Program is to create a systematic approach for finding effective ways to educate and move to action multiple audiences to recycle mercury thermostats in California. The first design task is audience identification; 14 potential program participants (target audiences) are defined by the consent order. Second is to determine locations with higher-than-average probability of having as-yet-unrecycled mercury thermostats. The third task is to determine how to best outreach to the audiences in a way that will yield increased collection sites and greater awareness of their availability. The fourth task is to determine which of the potential program participants are most likely to yield significant numbers of mercury thermostats for the purpose of designing appropriate pilot projects.

As explained in detail in the Scope of Plan section of this report, given the time constraints of the consent order, SGA determined that outreach would be best guided by a two-pronged approach: 1) in a broad effort by seeking to engage potential program participants at the state, regional, and county associations/organizations level, and 2) in a concentrated effort by seeking to reach the majority of potential program participants at a targeted city level – recommended as the City of San Bernardino, with the goal of collecting as many mercury thermostats as possible within a defined area. As part of the broad effort at the state, regional, and county levels, the Outreach Plan will place additional emphasis on increasing collection sites and bin placements at HHW centers as well as bin placements with large contractors (HVAC, General, and Demolition). This approach hopes to yield insights for use in other cities across California by showing the impact of overlapping, complementary efforts within one community.

The Location Recommendation section of this report was first guided by preliminary outreach research (see Sources) which included what had been done to date by TRC and individual states, studies conducted (e.g., Skumatz, 2009,) and non-governmental organization reports and recommendations. As a result of that data and subsequent input from DTSC, the five criteria for determining a recommended city for significant outreach efforts and pilot projects are: 1) Income, 2) Age of structure, 3) Ethnicity, 4) Temperature fluctuation, and 5) Population size.

Meeting the five criteria, the city needed: a significant number of pre-1980 structures in order to potentially have mercury thermostats; residents with incomes adequate for home-buying but not necessarily adequate for remodeling to include HVAC changes; potential program participants most likely to handle mercury thermostats that are ethnically diverse (per California); a location with more significant

temperature variability (used inland areas 50 miles from the coast as initial benchmark); and a minimum population of 100K to be large enough to include all potential Program participant groups.

Once the two-pronged outreach approach and recommended location were determined, outreach and pilot project strategies and tactics were developed.

Integrally woven together, the outreach and pilot project plans required a parallel step approach as discussed in the following section, "Purpose of the Outreach Plan."

Single City vs. Multi-City Approach

SGA will be conducting pilot projects to assess the effectiveness of different pilot designs¹. The location in which the pilot project is implemented is of importance as the location and consequent results of the pilot must be representative of regions of high outreach impact within California. Similarly, SGA took into consideration whether or not the pilots should be conducted among a number of cities across California or if they should be conducted in one city. A multi-city approach was considered because many observable distinctions can be identified between different geographic regions of California (e.g. level of high school education attainment in Northern California v. Southern California). However, given the demographic heterogeneity within the targeted area vs. the relative homogeneity of on-the-ground personnel between the alternatives and within California (ethnicity, level of education attainment, gender, and income) a multi-city method was deemed to provide minimal additional value versus the increased value of a geographically-focused implementation effort toward the goal of increased mercury thermostat collection.

A single-city approach was determined to be preferable to a multi-city approach, and research revealed that predictive factors of mercury thermostat presence are observed to be the highest within the City of San Bernardino. If we were to take a multi-city approach and conduct the pilots across many cities, our resources would be divided and spread among cities that may have less of a mercury thermostat presence (i.e. the sum of mercury thermostats collected will be smaller if we take a multi-city approach as opposed to a single city approach.)

Additionally, the pilots must be implemented in an area that is representative in order to potentially replicate the results of the pilots at a state level. Since the alternative areas that were selected (in addition to San Bernardino) have certain characteristics that are not representative of state thresholds (ethnicity, income, age of structure) including these alternative areas will dilute the sample pool with

¹ King, Bruce and Minium, Edward. (2007) Statistical Reasoning in the Behavioral Sciences, 5th Edition. Massachusetts: John Wiley & Sons. Pg 182.

scores that are not representative of the state’s population, which would make program assessments less accurate.²

Purpose of the Outreach Plan

The purpose of the Outreach Plan is to explain the engagement component of the Program, to show how the Outreach Plan will be conducted in tandem with the Pilot Project Plan, and to outline how the engagement addresses the DTSC Consent Order Exhibit B.

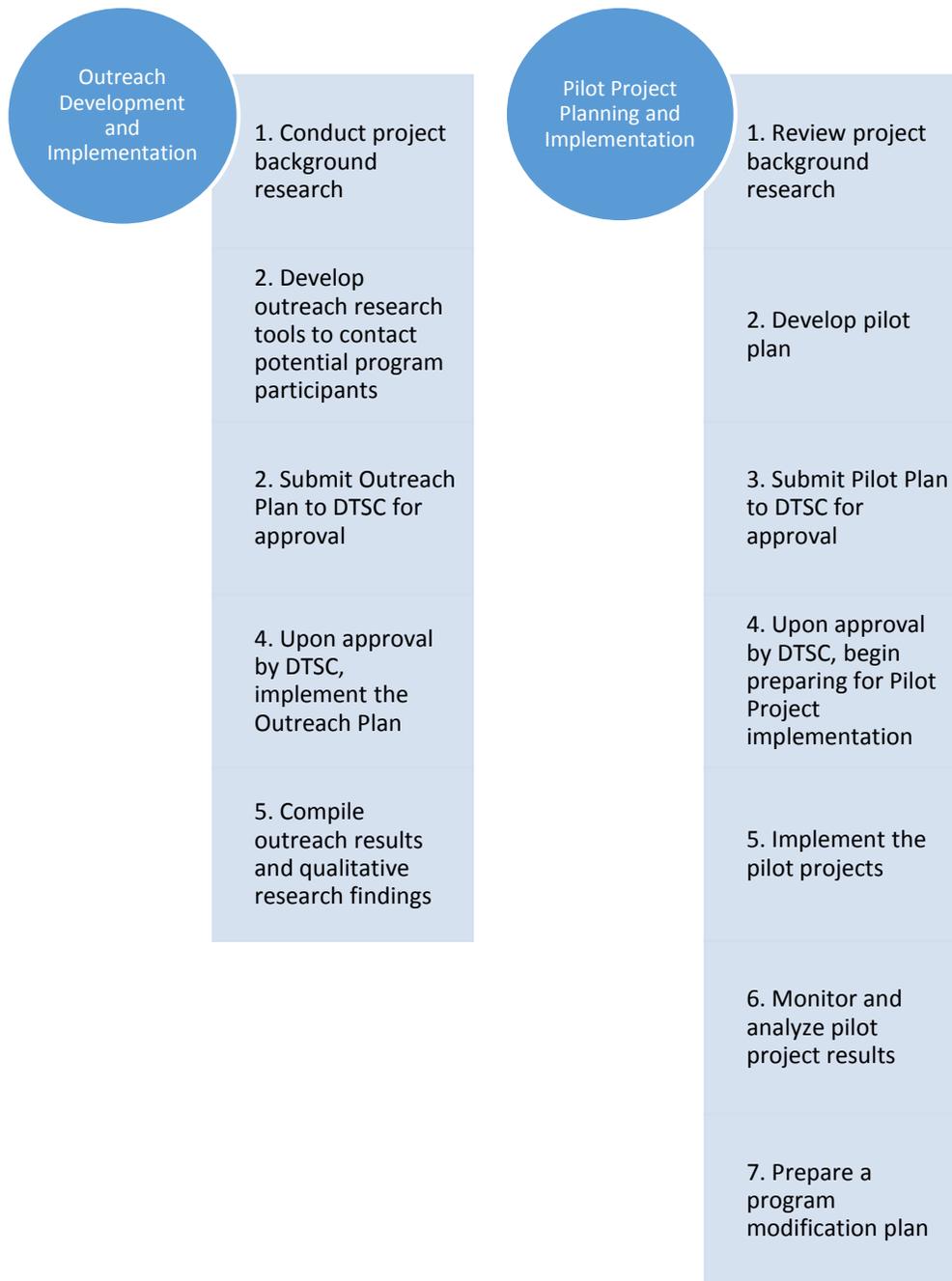
The DTSC Consent Order Exhibit B calls out the details of the Outreach Plan; said parameters and requirements that inform the Outreach Plan from start to finish beginning with the Goals of the Outreach Plan and concluding with the Proposed Schedule for Implementation.

For the purposes of this outreach plan, only the steps of the outreach development and implementation sequencing (as shown in Figure A below) will be addressed.

NOTE: The timeframe set by the Consent Order requires that the outreach and pilot project plans be developed concurrently, despite the pilot planning’s dependence, typically, upon the initial engagement’s (i.e., the Outreach Plan’s) results. In addition, while the Consent Order neither requires nor provides time for standard levels of market research, SGA has included a parallel step where qualitative research (i.e., listening to the audience to understand their perspectives) will be gathered, when possible, to refine outreach as data is gathered.

² “The statistical model we consider in section 7.1 specifies that our observations come from a random sample drawn from a known population. In short, each member of the population is equally likely to turn up in the sample and equally likely to be assigned to each treatment condition. The selection of one subject from the population has no effect on the chance that any other subject is selected. When this property is satisfied, the subjects that we observe-- the sample-- are comparable to those that we did not-- the rest of the population. Because they do not differ, findings based on the sample can be generalized to the population.” Cited from: Keppel, Geoffrey and Wickens, Thomas D. (2004) *Design and Analysis: A Researcher’s Handbook*, 4th Edition. New Jersey: Pearson Prentice Hall (pp. 9).

Figure A - Outreach and Pilot Project Plan Sequencing



Goals of Outreach Plan

The following Outreach Plan reflects activities that were conducted as well as what will be implemented in accordance with requirements of the DTSC Consent Order as described in Exhibit B-1.3.1 and B-1.3.2.

DTSC Consent Order Exhibit B

Exhibit B has two sections encompassing the goals of the Outreach Plan. They are:

Respondents' Plan for Compliance B-1.3.1

Within ninety (90) days of the Effective Date of this Order, Respondents shall develop and submit to the Department for its review and approval a draft Outreach Plan. The goal of the plan is for the Respondents to make contact with persons, entities or businesses that may generate or collect mercury-added thermostats (at a minimum, the list in Exhibit A) for purposes of increasing Program participation so that the number of collected mercury-added thermostats increases.

The activities in the Outreach Plan shall be designed to provide education about the Respondent's collection program and to engage and secure the participation of additional Program participants from the potential Program participant groups listed in Exhibit A. The outreach EXHIBIT B Respondents' Plan For Compliance 2 activities described in the Plan are to include provision of materials and program engagement tools developed for each potential Program participant and outreach timelines for each participant, and must seek the placement of additional bins to collect mercury-added thermostats from the identified Program participants. The draft Outreach Plan shall include a proposed implementation schedule which shall begin no later than sixty (60) days after submittal of the draft plan to the Department.

Respondents' Plan for Compliance B-1.3.2

No later than sixty (60) days after submittal of the draft Outreach Plan to the Department, or upon approval of the plan by the Department, whichever occurs first, unless directed otherwise by the Department, the Respondents shall implement the plan in accordance with the provisions and schedule specified therein. The number and location (by street address) of any additional bins placed as a result of the Respondents' outreach activities shall be reported as part of the Respondents' monthly report on the progress of implementation of the Outreach Plan in accordance with Paragraph B-1.10. Respondents may terminate outreach efforts with any potential Program participant group identified in the approved Outreach Plan upon providing an explanation satisfactory to the Department for doing so. The Department's decision approving or disapproving the requested termination of outreach efforts shall be communicated to Respondents in writing and shall set forth the reasons therefor. Any other proposed modifications to the approved Outreach Plan shall be submitted to the Department in writing for its consideration and approval.

Objectives of the Outreach Plan

The following objectives are taken directly from the Consent Order Exhibit B, and broken out into the actionable sections upon which the outreach plan's strategy is based. The strategy will include potential program participant contact, education, engagement, participation, provision of materials, reporting, and implementation timing.

Consent Order Objectives

Objective 1: Make contact with potential program participants listed in DTSC Consent Order Exhibit A to generate mercury thermostat collection for the purposes of increasing Program participation.

Objective 2: Provide education about collection programs for potential program participants.

Objective 3: Engage and secure the participation of additional Program participants from the potential Program participant groups listed in Exhibit A.

Objective 4: Provide materials and program engagement tools developed for each potential Program participant listed in Exhibit A.

Objective 5: Provide outreach timelines for each potential Program participant listed in Exhibit A.

Objective 6: Seek the placement of additional bins to collect mercury thermostats from the identified Program participants.

Objective 7: Provide a proposed implementation schedule which shall begin no later than sixty (60) days after submittal of the draft plan to the DTSC.

Objective 8: Implement the Outreach Plan in accordance with its provisions and schedule.

Objective 9: Submit a report describing the results of any additional bin placements (by street address) that occurred because of outreach activities as part of a monthly update report that details the progress of implementation of the Outreach Plan.

Objective 10: If certain outreach efforts are not yielding positive results, TRC may recommend termination of these outreach efforts.

Objective 11: Proposed modification to the approved Outreach Plan shall be submitted to DTSC in writing for its consideration and approval.

Outreach Development and Implementation

Outreach development and implementation is intended to make contact and initiate partnerships with potential program participants to create effective pilot projects. This Outreach Plan, which is based on a literature review (see appendix for list of sources) of mercury thermostat collection and recycling programs, is designed to educate, engage, and secure the participation of potential program participants. The enhanced perspective gained from the literature review has helped define the activities including messaging of materials and program engagement tools, which are intended to increase the collection of mercury thermostats.

Activities

The following step-by-step guide of activities, which have either already been performed or will be performed when the Outreach Plan is implemented, were designed to satisfy Exhibit B B-1.3.1 and B-1.3.2 of the DTSC Consent Order:

1. Conduct project background research
 - Conduct a literature review to find out what research had been conducted related to mercury thermostat collection and recycling in California and other states
 - Identify the demographics and other criteria (income, age of structure, ethnicity, temperature fluctuation, and population size) of and choose one preferred and two alternative locations most likely to contain a significant number of mercury thermostats
2. Develop outreach tools to contact potential program participants
 - Prepare to make contact with potential program participants to inform pilot project designs
 - Develop qualitative research interview questions
 - Gather contact lists
 - Develop messaging approaches
3. Submit Outreach Plan to DTSC for approval
 - Incorporate DTSC's recommendations into the Outreach Plan
 - Gain approval of the Outreach Plan
4. Upon approval by DTSC, implement the Outreach Plan
 - Coordinate personnel and logistics to implement outreach
 - Conduct outreach to target audiences regarding collection efforts, participation and placement of collection bins
 - Conduct qualitative research interviews when contacting potential program participants
5. Compile outreach results and qualitative research findings
 - Gather results of education/engagement and observations learned during the implementation process to be considered when determining pilot project continuation or cessation, and for program modification

Scope of Plan

As mentioned, the objective of this project is to increase the collection of mercury thermostats in accordance with Exhibit B-1.3.1 and B-1.3.2 of the DTSC Consent Order and to target the potential program participants as listed below.

Potential Program Participants

Outreach will be conducted with the following potential program participants, taken from the DTSC Consent Order Exhibit A, in the best fit location discussed in the Location Recommendation section of this report.

1. Household Hazardous Waste Collection Facilities
2. HVAC contractors
3. Demolition contractors
4. General contractors
5. Local building departments
6. Utility companies
7. School districts
8. Property management companies of multi-family housing developments
9. Property management companies of commercial/industrial properties
10. Hotel/motel managers and maintenance companies
11. Consumers
12. Retailers
13. Universities and Colleges
14. Any other group who may handle mercury-added thermostats

Location Criteria

Upon evaluation, age of structure and household income are predictive factors of substantial mercury thermostat presence. Given the social and economic ramifications of these variables, SGA determined that specific locational dynamics likely exist. Focusing on areas that may have a substantial mercury thermostat presence increases the likelihood of mercury thermostat collection because target personnel have a greater probability of both interaction with and understanding of the material. Therefore, implementing outreach and pilots in areas of high mercury thermostat presence may inform future pilot program modifications and tactic recommendations because pilots in these areas are more likely to result in favorable responses.

As a result of our preliminary research and input from DTSC, the five criteria for determining a recommended city for significant outreach efforts and pilot projects are: 1) Age of Structure, 2) Income, 3) Ethnicity, 4) Temperature fluctuation, and 5) Population size.

The recommended target locations are based on the following outreach demographic and related criteria.

Age of Structure

Mercury thermostats were used to control heating and cooling systems beginning in the 1950s. A legislative push for energy efficiency in California in the 1980s started a downward trend in the popularity of mercury thermostats in favor of ones that could be programmed and thus more energy efficient. By the early 1990s, electronic thermostats with digital sensors began to establish a stronger market position given their affordability and greater utility. By 2006, AB 2347 prohibited the sale of mercury thermostats³. Given this timeline, it is not clear exactly how quickly these mercury thermostats were phased out from being included in new home construction or how rapidly their share of the aftermarket sales declined. It is equally difficult to know how long mercury thermostats that were in use lasted before replacement. Given these unknowns, we will focus on implementing pilots in areas with a sizable proportion of houses built prior to the 1980s. This would focus on homes that were built with mercury thermostats. However, in discussions with DTSC, we will calibrate this assumption by also looking at TRC collection data in the target cities to determine if the collection trend is increasing or decreasing (i.e., with the assumption that

³ [ftp://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_2301-2350/ab_2347_bill_20080929_chaptered.html](http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_2301-2350/ab_2347_bill_20080929_chaptered.html)

an increasing collection trend equates to the existence of potentially more mercury thermostats in the area). According to the US Census Bureau, in 2014 more than 61% of California homes were built before 1980; SGA used this benchmark as a guide in evaluating and assessing selected cities of California.

Income

Lower middle income class households likely have the capacity to purchase homes but are restricted in their ability to make improvements to their properties including their heating and ventilation systems. In addition, households in this income group that do not own homes, but instead live in rented homes or apartments are more likely to be in units with centralized heating or cooling systems (than lower income households); again we assume that at a lower income rental price point, landlords would be less likely to have upgraded the system since installation. Likewise, we assume that other targets such as commercial buildings and hotels will also follow the same trends of mercury thermostat presence due to the level of economic activity in such areas and the resulting revenue and profit margins. SGA will observe areas that have a sizable proportion of lower middle income class residents. The Pew Research Center defines the lower middle income class as those earning between \$40,127 and \$60,190 for the state of California. SGA examined the income distribution of California and established that the average proportion of lower middle income class was 31.2% at the county level. Geographic areas with a lower middle income class greater than or equal to the established mean were chosen as potential targets.

Ethnicity

Cultural background also formulates perspectives which influence behavior, and therefore ethnicity of contractor and maintenance personnel must also be considered.

According to the US Census Bureau, white and Latino workers in California accounted for 83 percent of installation, maintenance, and repair occupations i.e. NAICS 49-000 (39.5% and 44.2%, respectively). Geographic areas with a large white and Latino contractor demographic will be targeted. Eight of the designated targets for outreach fall within the heating, air conditioning, and refrigeration mechanics and installers, and general maintenance and repair workers categories. These categories are within NAICS 49-000 as a subcategory. A specific look at the demographic trends of NAICS 49-9071 and NAICS 238220/49-9021 would have been preferred, but the data obtained from the U.S. Census Bureau did not provide demographic details of the subcategories of NAICS 49-000.

Contractors and maintenance personnel are the focus of our research as they directly interact with mercury thermostats. As such, the ethnicities of these personnel were subject to demographic research.

Temperature fluctuation

Based on conversations with DTSC, California inland cities were preferred (i.e., greater than 50 miles from the coast) in order to account for areas that have greater temperature fluctuations and as a result more likely to need HVAC systems relative to coastal regions with less significant temperature fluctuations (note: originally Oakland was considered as an alternate location, however, it was subsequently removed based on its coastal location).

Population size

To increase likelihood of finding mercury thermostats, the research looked at cities/regional areas with a population size greater than 100,000 for the analysis; our basis is that areas with less than 100,000 in population consequently are less likely to have a critical mass of the 14 target audiences that we need to reach.

Location Recommendation

Based on SGA’s outreach demographic criteria, one best fit and two alternative locations are recommended for outreach. Each outreach location was selected from a different main geographic region in California—Stockton was selected out of four Greater Bay Area cities, Fresno was selected out of four Central Valley cities, and San Bernardino was selected from three Southern California cities. As mentioned, only cities with a population size greater than 100,000 and located farther than 50 mi from the coast were considered for outreach. San Bernardino was selected as the best fit location and Stockton and Fresno were selected as alternatives.

Best Fit Location: City of San Bernardino

Age of Structure: San Bernardino exceeds our age of structure threshold of 61%. Our pilot projects should be implemented in an area that has a large proportion of houses built prior to the 1980s since they are most likely equipped with mercury thermostats.

Table 1: Age of Structure: City of San Bernardino

Year Structure Built			Number of Units Built After 1980	Percentage of Units Built After 1980
2010-2014 American Community Survey 5-Year Estimate	City of San Bernardino			
	Number	Percentage		
Built 2010 or later	145	0.2%	20,863	32.9%
Built 2000 to 2009	3,877	6.1%		
Built 1990 to 1999	5,327	8.4%		
Built 1980 to 1989	11,514	18.1%		
Built 1970 to 1979	10,450	16.5%	42,587	67.1%
Built 1960 to 1969	7,876	12.4%		
Built 1950 to 1959	12,522	19.7%		
Built 1940 to 1949	6,232	9.8%		
Built 1939 or earlier	5,507	8.7%		
Total Housing Units	63,450	100.0%	Number of Units Built Prior 1980	Percentage of Units Built Prior 1980

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 2: Age of structure + Temperature fluctuation (Distance from coast) + Population size

Southern CA Cities	
Population: 100,000+ / +50mi from Coast	
% Prior to 1980 (Households)	
Fontana	32.0% (52,036)
Lancaster	30.9% (53,030)
San Bernardino	67.1% (63,450)
Victorville	19.9% (35,317)

Source: See Sources for full details.

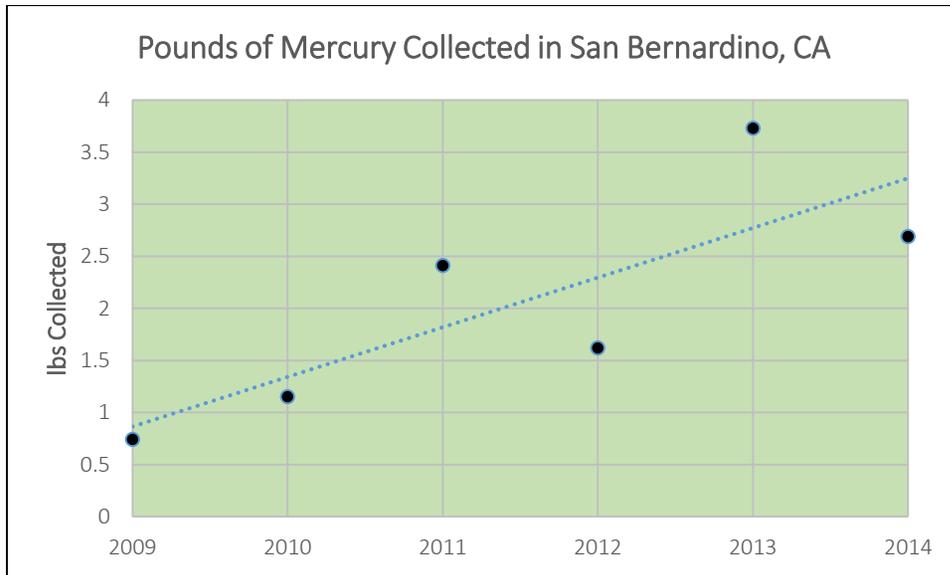
In addition, at the request of DTSC, we reviewed thermostat collection data from TRC from the City of San Bernardino. We found an overall upward trend in pounds of mercury collected between 2009 and 2014.

Table 3: TRC—Pounds of Mercury Collected in San Bernardino

Year	Collected (lbs.)
2009	0.74
2010	1.15
2011	2.41
2012	1.62
2013	3.73
2014	2.69

Source: TRC Bin Receipts. See Sources for full details.

Figure B – Pounds of Mercury Collected in San Bernardino, CA



Income: The City of San Bernardino has a sizable number of lower middle income class residents at 32.8%. While Victorville may have a larger lower middle income class than San Bernardino, it has a significantly smaller pre-1980 housing stock (both proportionately and number of units).

Table 4: Income Distribution: City of San Bernardino

Income and Benefits (In 2014 Inflation Adjusted Dollars)		
2010-2014 American Community Survey	City of San Bernardino	
5-Year Estimate	Number	Percentage
Less than \$10,000	6,317	11.0%
\$10,000 to \$14,999	4,975	8.6%
\$15,000 to \$24,999	8,440	14.7%
\$25,000 to \$34,999	6,915	12.0%
\$35,000 to \$49,999	8,707	15.1%
\$50,000 to \$74,999	10,200	17.7%
\$75,000 to \$99,999	5,366	9.3%
\$100,000 to \$149,999	4,566	7.9%
\$150,000 to \$199,999	1,314	2.3%
\$200,000 or more	777	1.3%
Total Households	57,577	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 5: Income distribution + Temperature fluctuation (Distance from coast) + Population size

Southern CA Cities	
Population: 100,000+ / +50mi from Coast	
% Lower Middle Income (Households)	
Fontana	32.0% (49,438)
Lancaster	33.0% (47,872)
San Bernardino	32.8% (57,577)
Victorville	35.6% (31,440)

Source: See Sources for full details.

Ethnicity: City of San Bernardino’s Installation, Maintenance, and Repair Occupations workforce is demographically representative of the state; the city’s two dominant racial groups, account for nearly 85 percent of its workforce. San Bernardino’s total number of general contractors and maintenance workers, which in 2014 the Census estimated at 2,920, was among the highest in the cities we evaluated for this geographic region.

Table 6: Distribution of Ethnicity: City of San Bernardino

City Total - Installation, Maintenance, and Repair Occupations: 16 Years and Over	2,920
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Installation, Maintenance, and Repair Occupations			
2010 American Community Survey 5-Year Survey	City of San Bernardino		
	Number	Percentage	
White	906	31.0%	
Black or African American	354	12.1%	
Asian	31	1.1%	
Latino or Hispanic	1,574	53.9%	84.9%

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 7: Distribution of Ethnicity + Temperature fluctuation (Distance from coast) + Population size

Southern CA Cities	
Population: 100,000+ / +50mi from Coast	
Two Largest Ethnic Groups (Contractor Total)	
Fontana	W: 19.0% / L: 70.2% (4,064)
Lancaster	W: 50.4% / L: 27.0% (2,610)
San Bernardino	W: 31.0% / L: 53.9% (2,920)
Victorville	W: 42.5% / L: 43.0% (1,778)

Source: See Sources for full details.

Alternatives

Stockton, CA

Age of Structure: Stockton does not meet the age of structure threshold that we have set out, but it ranks the second highest amongst the cities that were evaluated in the Greater Bay Area geographic region. While Sacramento meets our age of structure threshold of 61%, the two dominant racial groups that make up its Installation, Maintenance, and Repair Occupations workforce is less demographically representative of the state than Stockton.

Table 8: Age of Structure: City of Stockton

Year Structure Built			Number of Units Built After 1980	Percentage of Units Built After 1980
2010-2014 American Community Survey 5-Year Estimate	City of Stockton			
		Number	Percentage	
Built 2010 or later	523	0.50%	45,631	45.4%
Built 2000 to 2009	17,842	17.70%		
Built 1990 to 1999	12,570	12.50%		
Built 1980 to 1989	14,696	14.60%	54,946	54.6%
Built 1970 to 1979	20,031	19.90%		
Built 1960 to 1969	10,105	10.00%		
Built 1950 to 1959	9,623	9.60%		
Built 1940 to 1949	6,451	6.40%		
Built 1939 or earlier	8,736	8.70%		
Total Housing Units	100,577	100.00%	Number of Units Built Prior 1980	Percentage of Units Built Prior 1980

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 9: Age of Structure + Temperature fluctuation (Distance from coast) + Population size

Greater Bay Area Cities +50 mi from Coast / Population: 100,000+ % Prior to 1980 (Households)	
Elk Grove	9.7% (51,139)
Roseville	23.3% (48,506)
Sacramento	60.9% (193,173)
Stockton	54.6% (100,577)

Source: See Sources for full details.

Income: Stockton meets our income threshold of 31.2%. While the City of Sacramento has a slightly larger proportion of lower middle income class households, it does not meet our distribution of ethnicity threshold.

Table 10: Income Distribution: Stockton

Income and Benefits (In 2014 Inflation Adjusted Dollars)		
2010-2014 American Community Survey 5-Year Estimate	City of Stockton	
	Number	Percentage
Less than \$10,000	7,353	8.1%
\$10,000 to \$14,999	6,927	7.6%
\$15,000 to \$24,999	12,037	13.2%
\$25,000 to \$34,999	9,840	10.8%
\$35,000 to \$49,999	12,835	14.1%
\$50,000 to \$74,999	15,737	17.2%
\$75,000 to \$99,999	10,002	11.0%
\$100,000 to \$149,999	10,338	11.3%
\$150,000 to \$199,999	3,681	4.0%
\$200,000 or more	2,554	2.8%
Total Households	91,304	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 11: Income Distribution +
Temperature fluctuation
(Distance from Coast)+
Population size

Greater Bay Area Cities +50 mi from Coast / Population: 100,000+ % Lower Middle Income (Households)	
Elk Grove	29.6% (48,737)
Roseville	26.4% (45,657)
Sacramento	31.5% (177,578)
Stockton	31.3% (91,304)

Source: See Sources for full details.

Ethnicity: Stockton has a sizable Latino and white contractor population, which together accounts for nearly 69 percent of its workforce. Further, Stockton’s contractor population is more demographically representative of the state than say Roseville, for example, since its two dominant racial groups are more closely equal in size.

Table 12: Distribution of Ethnicity: Stockton

City Total - Installation, Maintenance, and Repair Occupations: 16 Years and Over	4,180
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Installation, Maintenance, and Repair Occupations		
2010 American Community Survey 5-Year Survey	City of Stockton	
	Number	Percentage
White	1,226	29.3%
Black or African American	178	4.3%
Asian	933	22.3%
Latino or Hispanic	1,650	39.5%
		68.8%

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 13: Distribution of Ethnicity + Temperature fluctuation (Distance from Coast)+ Population size

Greater Bay Area Cities	
+50 mi from Coast / Population: 100,000+	
Two Largest Ethnic Groups (Contractor Total)	
Elk Grove	W: 46.2% / A: 25.1% (1,733)
Roseville	W: 75.2% / L: 17.4% (1,545)
Sacramento	W: 38.2% / L: 24.8% (5,329)
Stockton	W: 29.3% / L: 39.5% (4,180)

Source: See Sources for full details.

Fresno, CA

Age of Structure: Fresno does not meet the age of structure threshold that we have set out, but it ranks as one of the highest amongst cities in the Central Valley geographic region with a population size greater than 100,000 and located farther than 50 mi from the coast. While Modesto has a larger proportion of houses built prior to the 1980s, its contractor population is not demographically representative of the state. Further, Modesto has less than half the number of housing units as Fresno, so there would be less opportunities for mercury thermostat collection.

Table 14: Age of Structure: City of Fresno

Year Structure Built			Number of Units Built After 1980	Percentage of Units Built After 1980
2010-2014 American Community Survey 5-Year Estimate	City of Fresno			
		Number	Percentage	
Built 2010 or later	2445	1.4%	77,931	44.8%
Built 2000 to 2009	24132	13.9%		
Built 1990 to 1999	24230	13.9%		
Built 1980 to 1989	27124	15.6%	96,173	55.2%
Built 1970 to 1979	34271	19.7%		
Built 1960 to 1969	19095	11.0%		
Built 1950 to 1959	21802	12.5%		
Built 1940 to 1949	9977	5.7%		
Built 1939 or earlier	11028	6.3%		
Total Housing Units	174,104	100.0%	Number of Units Built Prior 1980	Percentage of Units Built Prior 1980

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 15: Age of Structure + Temperature fluctuation (Distance from Coast)+ Population size

Central Valley Cities +50 mi from Coast / Population: 100,000+ % Prior to 1980 (Households)	
Bakersfield	40.2% (120,028)
Clovis	35.0% (12,465)
Fresno	55.2% (174,104)
Modesto	57.5% (75,472)

Source: See Sources for full details.

Income: Fresno does not meet our income threshold. However, the difference in lower middle income class presence is negligible amongst cities that were evaluated in the Central Valley geographic region.

Table 16: Income Distribution: Fresno

Income and Benefits (In 2014 Inflation Adjusted Dollars)		
2010-2014 American Community Survey 5-Year Estimate	City of Fresno	
	Number	Percentage
Less than \$10,000	15,369	9.6%
\$10,000 to \$14,999	12,780	8.0%
\$15,000 to \$24,999	22,598	14.1%
\$25,000 to \$34,999	19,129	11.9%
\$35,000 to \$49,999	22,119	13.8%
\$50,000 to \$74,999	26,848	16.8%
\$75,000 to \$99,999	16,325	10.2%
\$100,000 to \$149,999	15,254	9.5%
\$150,000 to \$199,999	5,780	3.6%
\$200,000 or more	3,970	2.5%
Total Households	160,172	100.0%

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 17: Income Distribution +
Temperature fluctuation
(Distance from Coast)+
Population size

Central Valley Cities +50 mi from Coast / Population: 100,000+ % Lower Middle Income (Households)	
Bakersfield	30.8% (111,988)
Clovis	29.6% (33,555)
Fresno	30.6% (160,172)
Modesto	32.1% (70,310)

Source: See Sources for full details.

Ethnicity: Fresno has a large white and Latino contractor population from which to draw participants. Bakersfield also has a contractor population that is demographically representative of the state, however, it has a significantly smaller proportion of houses built prior to the 1980s.

Table 18: Distribution of Ethnicity: Fresno

City Total - Installation, Maintenance, and Repair Occupations: 16 Years and Over	5,710
--	--------------

Installation, Maintenance, and Repair Occupations			
2010 American Community Survey 5-Year Survey	City of Fresno		
	Number	Percentage	
White	2,364	41.4%	
Black or African American	181	3.2%	
Asian	524	9.2%	
Latino or Hispanic	2,539	44.5%	85.9%

Source: U.S. Census Bureau, 2010-2014 American Community Survey. See Sources for full details.

Table 19: Distribution of Ethnicity +
Temperature fluctuation
(Distance from Coast)+
Population size

Central Valley Cities	
+50 mi from Coast / Population: 100,000+	
Two Largest Ethnic Groups (Contractor Total)	
Bakersfield	W: 45.8% / L: 47.0% (5,198)
Clovis	W: 58.0% / L: 27.4% (1,631)
Fresno	W: 41.4% / L: 44.5% (5,710)
Modesto	W: 61.0% / L: 26.2% (3,170)

Source: See Sources for full details.

Strategy

Based upon the objectives of the Outreach Plan, there are five components to the Outreach Plan strategy:

1. Make Contact with Potential Program Participants
2. Inform and Educate Potential Program Participants
3. Engage and Secure Participation of Additional Program Participants
4. Provide Each Potential Program Participant with Materials and Program Engagement Tools, and
5. Seek Placement of Additional Bins.

Because the tactics for outreach complement and/or overlap some tactics of the Pilot Project Plan, a combined tactical breakdown is shown in the table below: Tactical Breakdown by Potential Program Participant for outreach and pilot project plans.

NOTE: The columns related specifically to the Pilot Project Plan are discussed in detail in the Pilot Project Plan document.

Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans						
	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
Household Hazardous Waste Collection Facilities	Contact Educate Engage Materials Bins	<ul style="list-style-type: none"> • Call and/or arrange meetings with HHW managers • Attend one or more HHW Information Exchange meetings to establish and/strengthen connection • Discuss partnerships with the goal of bin placement and proper thermostat sorting and shipment to TRC • Solicit qualitative data to help improve pilot projects 	Partner	<ul style="list-style-type: none"> • Participate in regional and Statewide HHW information exchanges with local program managers • Work with local program managers to promote and include TRC bin collection of mercury thermostats • Gain inclusion in HHW outreach materials (e.g., provide articles for newsletters or provide an insert informational brochure to be mailed to residents) • Present with a guest NGO speaker at a regional meeting to get news out about the recycling program to local program managers • Create a microsite with information for HHW managers to obtain a TRC collection bin 	<ul style="list-style-type: none"> • Free collection bins • No-cost disposal of mercury thermostats 	<ol style="list-style-type: none"> 1. New collection sites established 2. Bins placed 3. Quantity of thermostats collected 4. State / regional / county / city meetings attended as educational speakers or presenters 5. Quantity of brochures/materials distributed 6. Number of mail-in rebates redeemed 7. Microsite hits

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	<i>OUTREACH PLAN</i>		<i>PILOT PROJECT PLAN</i>			
<i>Potential Program Participant (Target Audience)</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Monetary or Non-monetary Incentives</i>	<i>Pilot Project Metrics</i>
HVAC Contractors	Contact Educate Engage Materials [Place] Bins	<ul style="list-style-type: none"> • Contact HVAC contractors through messaging the CSLB, local chapters of trade associations, microsite links, etc. • Solicit qualitative data to help improve pilot projects • If large enough provide free bin 	Partner (if large enough to have a bin) Educate Incent Increase Ease Educate Incent Increase Ease	<ul style="list-style-type: none"> • Produce informational flyer for distribution to technicians about recycling mercury thermostats in English and Spanish • Seek to incorporate an article in newsletter to HVAC contractors from California State Licensing Board (CSLB) • Conduct an incentive program with mail-in rebate from HHW or in-store credit or gift card from retailers • Provide in-store informational brochures, shelf-talkers, or posters at wholesalers/distributors • Create microsite with HVAC/General Contractor page in English and Spanish • Work with DTSC about making contact with the Contractors State Licensing Board to investigate the establishment of a question on the State licensing exam regarding how to identify mercury-added thermostats and to learn of proper recycling 	<ul style="list-style-type: none"> • Mail-in rebate (from HHW) or in-store credit or gift card (from retailers) • If partner: free TRC recycling bins for each partnered location • \$100 mailed rebate for each bin containing at least 40 mercury thermostats (large contractors) 	<ol style="list-style-type: none"> 1. HVAC contractors contacted to educate, and engage- list to include qualitative research data 2. Quantity of brochures/materials distributed 3. Trade and other associations groups contacted to educate and engage - list to include qualitative research data 4. Quantity of brochures/materials distributed 5. Microsite hits

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	<i>OUTREACH PLAN</i>		<i>PILOT PROJECT PLAN</i>			
<i>Potential Program Participant (Target Audience)</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Monetary or Non-monetary Incentives</i>	<i>Pilot Project Metrics</i>
Demolition Contractors	Contact Educate Engage Materials [Place] Bins	<ul style="list-style-type: none"> Contact demolition contractors via phone, associations, and website to tell them about the recycling program Solicit qualitative data to help improve pilot projects If large enough provide free bin 	Partner (if large enough to have a bin) Educate Incent Increase Ease	<ul style="list-style-type: none"> Contact environmental services hazardous waste subcontractors Work to get a link from the demolition contractors association onto the microsite to drive recycling to wholesaler/distributors and/or retail collection sites Work with DTSC about making contact with the Contractors State Licensing Board to investigate the establishment of a question on the State licensing exam regarding how to identify mercury-added thermostats and to learn of proper recycling 	<ul style="list-style-type: none"> Mention the company's name on the microsite's participating recyclers webpage or on a TRC web page If partner: free TRC recycling bins for each partnered location \$100 mailed rebate for each bin containing at least 40 mercury thermostats 	<ol style="list-style-type: none"> Demolition contractors contacted to educate and engage - list to include qualitative research data Trade and other associations groups contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed Microsite hits
General Contractors	Contact Educate Engage Materials Bins	<ul style="list-style-type: none"> Contact contractors through messaging the CSLB, local trade associations, microsite links, etc. Solicit qualitative data to help improve pilot projects 	Partner (if large enough to have a bin) Educate Incent Increase Ease	<ul style="list-style-type: none"> Brochures to educate students Produce informational brochure for distribution to technicians about recycling in English and Spanish Seek to incorporate an article in newsletter to general contractors from CSLB 	<ul style="list-style-type: none"> Mail-in rebate (from HHW) or in-store credit or gift card (from retailers) 	<ol style="list-style-type: none"> Bins placed (for those accepting bins)

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans						
	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
	Contact Educate Engage [Produce] Materials [Place] Bins		Partner Educate Incent Increase Ease			
		<ul style="list-style-type: none"> If large enough provide free bin 		<ul style="list-style-type: none"> Conduct an incentive program with mail-in rebate from HHW or in-store credit or gift card from retailers Provide in-store informational brochures, shelf-talkers, or posters at wholesalers/distributors Create microsite with HVAC/General Contractor page in English and Spanish Work with DTSC about making contact with the Contractors State Licensing Board to investigate the establishment of a question on the State licensing exam regarding how to identify mercury-added thermostats and to learn of proper recycling 	<ul style="list-style-type: none"> If partner: free TRC recycling bins for each partnered location \$100 mailed rebate for each bin containing at least 40 mercury thermostats (large contractors) 	<ol style="list-style-type: none"> General Contractors contacted to educate and engage - list to include qualitative research data Trade and other associations groups contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed microsite hits

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans						
	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
Local Building Departments	Contact Educate Engage [Produce] Materials [Place] Bins	<ul style="list-style-type: none"> Contact the local building department; solicit names of key officials (in permits, training, etc.) that can disseminate informational brochures Solicit qualitative data to help improve pilot projects 	Partner Educate Incent	<ul style="list-style-type: none"> Post educational information at public-facing counters Distribute brochures at local agency where HVAC unit permits are issued Enlist the aid of HHW or other related agencies (for introductions) to gain access to the local building department to provide informational brochures to its inspectors Promote contractor microsite for proper recycling methods and link to TRC collection site locator 	<ul style="list-style-type: none"> Mention the department's name on the microsite's participating recyclers webpage or on a TRC web page 	<ol style="list-style-type: none"> Building department officials contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed
Utility Companies	Contact Educate Engage Materials	<ul style="list-style-type: none"> Enlist the aid of DTSC to connect with utility company management in order to disseminate mercury thermostat recycling information Solicit qualitative data to help improve pilot projects 	Partner Educate Incent	<ul style="list-style-type: none"> Work with utility company on energy savings approach to include mercury thermostat recycling information Have utility company energy savings web page to link to the TRC site to encourage proper disposal when purchasing a new thermostat Get an article published in the utility company e-newsletter or blog Enlist the aid of DTSC to connect with utility company management in order to disseminate mercury thermostat recycling information 	<ul style="list-style-type: none"> Company's name on the microsite's participating recycling partners webpage or on a TRC page 	<ol style="list-style-type: none"> Utility company officials contacted to educate and engage - list to include qualitative research data Website links to TRC site gained E-newsletter article/blog post accepted

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	<i>OUTREACH PLAN</i>		<i>PILOT PROJECT PLAN</i>			
<i>Potential Program Participant (Target Audience)</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Monetary or Non-monetary Incentives</i>	<i>Pilot Project Metrics</i>
	Contact Educate Engage [Produce] Materials [Place] Bins		Partner Educate Incent Increase Ease			
School Districts	Contact Educate Engage Materials	<ul style="list-style-type: none"> • Contact the school district office(s); solicit names of key officials (supervisors, trainers) who can disseminate informational brochures and microsite information to maintenance personnel and/or contracted HVAC company(ies) • Solicit qualitative data to help improve pilot projects 	Partner Educate Incent	<ul style="list-style-type: none"> • Create an informational brochure or poster to educate maintenance personnel on proper mercury thermostat recycling • Contact unions as conduit for information regarding thermostat-handling or supervising service workers about the recycling program 	<ul style="list-style-type: none"> • Mention the district's name on the microsite's participating recycling partners webpage 	<ol style="list-style-type: none"> 1. School district officials contacted to educate and engage - list to include qualitative research data 2. E-newsletter article/blog post accepted

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	<i>OUTREACH PLAN</i>		<i>PILOT PROJECT PLAN</i>			
<i>Potential Program Participant (Target Audience)</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Strategic Component</i>	<i>Tactics</i>	<i>Monetary or Non-monetary Incentives</i>	<i>Pilot Project Metrics</i>
Property Management Companies of Multi-Family Housing Developments	Contact Educate Engage [Produce] Materials [Place] Bins	<ul style="list-style-type: none"> Contact local property management companies to find the gatekeepers to their maintenance personnel and/or HVAC contractors for the purpose of: educating them about the recycling program, and informing them about collection sites Solicit qualitative data to help improve pilot projects 	Partner Educate Incent	<ul style="list-style-type: none"> Create an informational brochure or poster to educate maintenance personnel on proper mercury thermostat recycling Work with trade associations to provide blog post or e-newsletter article regarding recycling program (e.g., National Association of Residential Property Managers) 	<ul style="list-style-type: none"> Mention the company's name on the microsite's participating recycling partners webpage 	<ol style="list-style-type: none"> Property Management Companies contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed Trade and other associations groups contacted to educate and engage - list to include qualitative research data E-newsletter article/blog post accepted

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
Property Management Companies of Commercial / Industrial Properties	Contact Educate Engage [Produce] Materials [Place] Bins	<ul style="list-style-type: none"> Contact local property management companies to find the gatekeepers to their maintenance personnel and/or HVAC contractors for the purpose of: educating them about the recycling program, and informing them about collection sites Solicit qualitative data to help improve pilot projects 	Educate Incent	<ul style="list-style-type: none"> Create an informational brochure or poster to educate maintenance personnel on proper mercury thermostat recycling Work with trade associations to provide blog post or e-newsletter article regarding recycling program (e.g., Property Management Association - commercial properties) Contact California-based commercial/industrial property management companies and trade associations about if a link to the microsite may be included on their websites (perhaps where other green efforts/recycling efforts are listed) 	<ul style="list-style-type: none"> Mention the company's name on the microsite's participating recycling partners webpage 	<ol style="list-style-type: none"> Property Management Companies contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed Trade and other associations groups contacted to educate and engage - list to include qualitative research data E-newsletter article/blog post accepted

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
Hotel / Motel Managers and Maintenance Companies	Contact Educate Engage [Produce] Materials [Place] Bins	<ul style="list-style-type: none"> Contact hotel and motel managers to partner in providing information to their maintenance personnel and/or HVAC contractors Solicit qualitative data to help improve pilot projects 	Educate Incent	<ul style="list-style-type: none"> Create an informational brochure or poster to educate maintenance personnel on proper mercury thermostat recycling Contact trade associations such as the California Hotel and Lodging Association or the California Green Business Association- hotel section to get them info or an article or blog post to include in publications and on their website 	<ul style="list-style-type: none"> Mention the company's name on the microsite's participating recycling partners webpage 	<ol style="list-style-type: none"> Hotel and motel managers and maintenance companies contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed Trade and other associations groups contacted to educate and engage - list to include qualitative research data E-newsletter article/blog post accepted

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
Consumers	Contact Educate Engage Materials [Place] Bins		Partner Educate Incent Increase Ease			
Consumers	Contact Educate Engage Materials	<ul style="list-style-type: none"> Through retail locations, contact consumers through use of informational materials including signage, in-store notification and/or advertising, etc. 	Educate Incent Increase Ease	<ul style="list-style-type: none"> Develop shelf-talker posters with tear-off informational sheets or rebate for point-of-collection in English and Spanish at retailers and big box stores (e.g., Home Depot, Lowe’s, etc.) Use google ads to drive consumers to retail collection sites based on key search terms 	<ul style="list-style-type: none"> Mail-in rebate (from HHW) or in-store credit or gift card (from retailers) 	<ol style="list-style-type: none"> Through retailers and HHW centers, number of thermostats collected Quantity of shelf-talker tear-off sheets taken TRC site hits from California
Retailers	Contact Educate Engage Materials Bins	<ul style="list-style-type: none"> Contact corporate entities to obtain access to location managers with the authority to establish collections sites and decide upon in-store promotions and events Solicit qualitative data to help improve pilot projects 	Partner Educate Incent Increase Ease	<ul style="list-style-type: none"> Partner with home improvement stores to enable in-store messaging and recycling sites Visit existing and sign up new retailer (home improvement stores that carry thermostats) facilities for the TRC bin program Develop shelf-talkers with tear-off informational sheets for point-of-collection in English and Spanish Conduct a “Mercury Thermostat or Thermostat Roundup” event or similar to collect thermostats and hand-out instant rebate or gift card In-store flyer ad Add participating retail partner links to the microsite 	<ul style="list-style-type: none"> TRC purchase of gift cards to fund recycling incentives Payment for in-store advertising in ad flyer, etc. Roundup event drives customers to store Free TRC recycling bins for each partnered location 	<ol style="list-style-type: none"> Number of collection sites Number of bins placed Number of thermostats collected Number of in-store incentives redeemed Website links to microsite gained Quantity of shelf-talker tear-off sheets taken

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
	Contact Educate Engage [Produce] Materials [Place] Bins		Partner Educate Incent Increase Ease			
				<ul style="list-style-type: none"> Use google ads to promote events and micro-site and help drive traffic directly to TRC collection site locator 	<ul style="list-style-type: none"> Mention the home improvement chain name on the microsite's participating recyclers webpage 	
Universities and Colleges	Contact Educate Engage Materials	<ul style="list-style-type: none"> Call institutional facility managers and find out how to disseminate information to maintenance personnel and/or HVAC contractor charged with thermostat replacement Solicit qualitative data to help improve pilot projects 	Educate Incent	<ul style="list-style-type: none"> Create informational brochure for internal maintenance personnel Contact unions as conduit for information regarding thermostat-handling or supervising service workers about the recycling program 	<ul style="list-style-type: none"> Mention the institution's name on the microsite's participating recyclers webpage 	<ol style="list-style-type: none"> University and college facilities managers contacted to educate and engage - list to include qualitative research data Meetings w/unions and/or maintenance personnel to educate and create awareness Quantity of brochures/materials distributed

Table: Tactical Breakdown by Potential Program Participant for Outreach and Pilot Project Plans

	OUTREACH PLAN		PILOT PROJECT PLAN			
Potential Program Participant (Target Audience)	Strategic Component	Tactics	Strategic Component	Tactics	Monetary or Non-monetary Incentives	Pilot Project Metrics
Any other group who may handle mercury-added thermostats	Contact Educate Engage [Produce] Materials [Place] Bins	<ul style="list-style-type: none"> Contact state, regional, and city associations and groups for each “Other” category shown Gather qualitative data that shows how “Other” groups may participate in the pilot project implementation 	Partner Educate Incent	<p><i>Unions</i></p> <ul style="list-style-type: none"> Contact unions regarding distribution of information to their maintenance members at universities, colleges or schools; discuss health and safety issues regarding proper thermostat-handling or supervising service workers about the recycling program <p><i>NGOs</i></p> <ul style="list-style-type: none"> Contact NGOs as partners in disseminating information about the recycling program to local HHW programs Work with NGOs as partners for roundup day event and promoting the recycling of mercury thermostats 	<ul style="list-style-type: none"> Mention the institution’s name on the microsite’s participating recyclers webpage or TRC webpage 	<ol style="list-style-type: none"> Trade and other associations groups contacted to educate and engage - list to include qualitative research data Quantity of brochures/materials distributed

Strategic Components

For the purposes of this Outreach Plan, just the strategic components applying to outreach are discussed below.

Tactic-related Specifics

1. Messaging

In order to engage and secure participation, messaging themes must resonate with the potential program participants. One or more of the following themes will be applied in development of program materials designed to create partnerships and educate.

- Health and Safety of Family and Pets (health benefits – non-monetary incentive)
- Cash-by-mail Rebate (monetary incentive)
- Reward - \$5 in-store credit or gift card (monetary incentive)
- Cash-by-mail (Participating General, HVAC, or Demolition Contractors) - \$100 for each bin received containing 40 mercury thermostats (monetary incentive)
- Pro-environmental participation (non-monetary incentive)
- Energy savings potential (non-monetary incentive)
- Legal responsibility (non-monetary incentive)
- Social norm (non-monetary incentive)

2. Program Materials (at a minimum)

- TRC bins
- Informational brochures
- Shelf-talker w/tear-off sheets for incentive program and/or how-to information
- Microsite w/multiple pages geared toward clusters of potential program participants
- Event signage
- In-store advertising, awareness banners for program awareness and/or roundup event

3. Engagement Tools

- Contact lists
- TRC Participation Form/Agreement: Household Hazardous Waste (HHW), Contractors, and Retail
- Qualitative interviews (questionnaires) See Appendix: Qualitative Interviews
- Microsite w/multiple pages geared toward clusters of potential program participants
- County/City community calendars and/or website inclusion and/or links to microsite and/or TRC

Proposed Overview Schedule for Implementation

Name	Duration	Start	Finish	Q1		Q2		Q3		Q4		Q1		Q2					
				Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Conduct project background research	50d	02/20/16	04/09/16	1. Conduct project background research															
Develop outreach research tools to contact potential program participants	40d	04/01/16	05/10/16	2. Develop outreach research tools to contact potential program participants															
Submit Outreach Plan to DTSC for approval on 5.10.16	60d	05/10/16	07/08/16	3. Submit Outreach Plan to DTSC for approval on 5.10.16															
Upon approval by DTSC, implement the Outreach Plan	60d	07/09/16	09/06/16	4. Upon approval by DTSC, implement the Outreach Plan															
Compile outreach results and qualitative research findings	30d	09/07/16	10/06/16	5. Compile outreach results and qualitative research findings															

Limitations

The Outreach Plan is designed to comply with the DTSC Consent Order; the following limitations are inherent in the consent order and have the potential to negatively impact the overall Program:

- Requirement for simultaneous preparation of Outreach Plan and Pilot Project Plan doesn't allow for the information gather from the engagement with target participants to inform the Pilot Project Plan. Ideally, the two plans would happen sequentially as opposed to simultaneously.
- Time constraints of the DTSC Consent Order schedule do not provide enough time to conduct outreach research (both quantitative and qualitative) to inform both the Outreach Plan and the development of the Pilot Project Plan.
- Pilots will potentially be implemented in the summer months between the shoulder seasons, this period is historically where there is a lower level of mercury thermostats collected. The shoulder seasons (late summer/fall months or late winter/spring months) are when most thermostats are replaced. While summer and winter have the most HVAC use, it is the shoulder seasons when systems are first put into use after many months of non-use, that most systems are found to have problems and are worked on, replaced or upgraded. Conducting the initial phase of the pilots (leading to the program modifications) in between the shoulder seasons is not an optimal period for collecting mercury thermostats and as such may impact the number of mercury thermostats collected. Ideally the initial phase of the outreach and pilot projects would happen during the late summer/fall months or late winter/spring months. (See TRC annual reports for monthly trends in thermostat collections.)

Appendix: Qualitative Interviews

This series of qualitative interview instruments was designed to examine concerns and motivations of the potential program participants (outreach targets.) Some of these questions will be implemented as part of the outreach efforts. Understanding these variables as they pertain to recycling of mercury thermostats in each target group would help identify already present motivations, reframe present barriers against recommended actions, and increase awareness of the problem.

NOTE: Due to strict time constraints as dictated by the DTSC Consent Order and depending upon availability of potential program participants, the depth to which these questions will be explored will be limited and may differ from the questions specified within this appendix.

Words in brackets [...] are general cues to the interviewer, not information to be spoken.

List of Qualitative Interview Instruments

- Department of Building Inspection Qualitative Interview Questions
- DIY Consumers Qualitative Interview Questions
- Utility Company Qualitative Interview Questions
- Colleges/University Facility Managers Qualitative Interview Questions
- School District Facility Managers Qualitative Interview Questions
- Retailer Qualitative Interview Questions
- Property Managers of Multifamily Housing Qualitative Interview Questions
- Property Managers of Commercial/Industrial Qualitative Interview Questions
- HVAC/General Contractor Qualitative Interview Questions
- Household Hazardous Waste Collection Center Qualitative Interview Questions
- Demolition Contractor Qualitative Interview Questions
- Hotel and Motel Managers Qualitative Interview Questions

Department of Building Inspection Qualitative Interview Questions

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

The Thermostat Recycling Corporation (TRC) is a non-profit organization that facilitates and manages the collection and proper disposal of mercury-containing thermostats. TRC is aiming to increase the collected number of mercury containing thermostats this year and is actively looking for organizations to aid in this effort.

- 1) Would the Department of Building Inspection be willing to be part of the recycling effort by providing information concerning proper mercury containing thermostat recycling and requiring participating recycling locations to do so on their websites?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side?
 - f. Would you need approval from someone in order to be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in the Department of Building Inspection, would you say that I would get similar answers from the Department of Building Inspection of other cities?
- 2) Would the department be willing to display mercury thermostat recycling information in its permit departments?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side?
 - f. Would you need approval from someone in order to be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in the Department of Building Inspection, would you say that I would get similar answers from the Department of Building Inspection of other cities?
- 3) Would the department be willing to include mercury thermostat recycling information in educational/outreach sessions that they hold? The materials for discussion would be provided.
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side?
 - f. Would you need approval from someone in order to be part of this program?
 - i. What is that person's position title?

- ii. Would your consideration change if a speaker was provided to deliver a talk about mercury thermostat recycling?
 - iii. Given your experience in the Department of Building Inspection, would you say that I would get similar answers from the Department of Building Inspection of other cities?
- 4) Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score
- 5) In your opinion, how important is proper disposal of mercury containing thermostats to the Department of Building Inspection of other cities? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score
- 6) How important is the proper disposal of mercury containing thermostats to you personally? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score
- 7) In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 8) How many years have you worked in a Department of Building Inspection?
- 9) How many years have you worked in the Department of Building Inspection that you are currently in?
- 10) What is your ethnicity?
- 11) What is your age?

DIY Consumers Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) You have described yourself as a DIYer. What are some improvement projects you are working on or have worked on?
 - a. Would you say that you are proud of being a DIYer?
 - b. Have you ever personally replaced a thermostat in your home?
 - i. [if they have not] Did you call a contractor instead?
 1. [if contractor] Why did you decide to contact a contractor rather than replace the thermostat yourself?
- 2) [Regarding mercury thermostats...]
 - a. [if personally replaced] Where did you dispose of the mercury containing thermostat the last time you replaced one?
 - b. [if used contractor] Do you know what happened to the mercury containing thermostat once the contractor replaced it?
 - i. Did you ask the contractor as to where he disposed of it?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score
- 3) [Regarding recycling of mercury thermostats...]
 - a. What factors motivate you to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates you the most?
 - b. What makes recycling mercury containing thermostats difficult?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostats the most difficult?
 - c. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Please explain how you came about your score.
 - ii. Will it be time consuming?
 1. What would make it time consuming?
 - iii. Will there be paperwork to fill out?
 - iv. Will there be a recycling fee involved?
 - v. Will you need to bring your ID?
 - d. Before speaking with me, were you aware that you could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler or contracting business?
 - i. Which of the four options were you unaware of?
- 4) [A bit about you...]
 - a. What is your ethnicity?
 - b. What is your age?

- c. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
- d. Do you use social media?
 - i. Which social media services do you use?
- e. Are you part of any online communities or forums related to DIY?
 - i. What are the most popular online websites concerning DIY?

Utility Company Qualitative Interview Questions

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

The Thermostat Recycling Corporation (TRC) is a non-profit organization that facilitates and manages the collection and proper disposal of mercury-containing thermostats. TRC is aiming to increase the collected number of mercury containing thermostats this year and is actively looking for organizations to aid in this effort.

- 1) Would you be willing to include a mercury thermostat recycling information article and website link in your customer email newsletter as a way to promote energy savings and a cleaner environment?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side.
 - f. Would you need approval from someone in order to be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in the utilities industry, would you say that I would get similar answers from other utility companies?
- 2) Would you be willing to participate in a joint social media effort aimed at promoting mercury thermostat recycling as a way to promote energy savings and a cleaner environment?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side.
 - f. Would you need approval from someone in order to do be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in the utilities industry, would you say that I would get similar answers from other utility companies?
- 3) Would you be willing to allow a link to a mercury thermostat recycling website via your primary website?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side
 - f. Would you need approval from someone in order to do be part of this program?
 - i. What is that person's position title?
 - ii. Would your consideration change if a speaker was provided to deliver a talk about mercury thermostat recycling?

- iii. Given your experience in the utilities industry, would you say that I would get similar answers from other utility companies?
 - iv. a. If the site gets traffic of X view per month, will that change your consideration in allowing the link?
 - v. b. If the site gets traffic of Y view per month, will that change your consideration in allowing the link?
 - g. Would you be willing to become a participating mercury thermostat collection location for your area?
 - h. Why or why not?
 - i. What are the potential positives of this action for your organization?
 - j. What are the potential negatives of this action for your organization?
 - k. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - l. What can be changed about this initiative to negate some of the potential negatives you discussed from our side
 - m. Would you need approval from someone in order to be part of this program?
 - 1. What is that person's position title?
 - n. Given your experience in the utilities industry, would you say that I would get similar answers from other utility companies?
- 4) Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 5) In your opinion, how important is proper disposal of mercury containing thermostats to utility departments of other cities? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score
- 6) How important is the proper disposal of mercury containing thermostats to you personally? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 7) In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 8) How many years have you worked in the utilities industry?
- 9) How many years have you worked at the utility company you are currently at?
- 10) What is your ethnicity?
- 11) What is your age?

Colleges/University Facility Managers Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) If a thermostat needs to be replaced at your institution, who would be responsible for that?
- 2) **If all HVAC related work is outsourced:** I'd like to thank you again for participating with us. Unfortunately, we are currently interested in the recycling habits of organizations that handle HVAC work internally.
 - a. What is the title of the person in this position?
 - b. How many of these workers do you employ?
 - i. How many employees do you have in total?
 - c. Is there a common ethnicity amongst your maintenance personnel?
 - i. About what percentile of your maintenance personnel is X?
 - ii. In what language are these personnel most comfortable speaking?
- 3) What did your maintenance personnel do with the mercury containing thermostat the last time they replaced one?
 - a. Is there a program or procedure in place at your institution to inform maintenance personnel about proper disposal of household hazardous waste?
 - i. Are mercury containing thermostats part of that discussion?
 - b. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your maintenance personnel?
 - i. What is the title of their position?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - e. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - f. In your opinion, how important is proper disposal of mercury containing thermostats at other universities? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
- 4) If we created an informational brochure or email concerning the proper disposal of hazardous waste materials, would you be willing to distribute it to your maintenance personnel?
 - a. What would motivate your organization to distribute informational brochures or emails to your maintenance personnel?
 - b. What are potential drawbacks to distributing informational brochures or emails to your maintenance personnel that your organization would have to take into consideration?
 - c. Would you need approval from someone in order to do so?
 - i. What is that person's position title?

1. Given your experience in campus facilities management, would you say that I would get a similar answer from other universities?
 - d. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?
 - i. Given your experience in campus facilities management, would you say that I would get a similar answer from other universities?
 - e. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - f. What makes recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostat the most difficult?
 - g. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 1. What would make it time-consuming?
 - h. Before speaking with me, were you aware that your maintenance personnel could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler, or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About you and mercury thermostat recycling]
- a. Do you have experience working in other campus facilities besides your current one?
 - i. If so, how many years?
 - b. How many years have you been a facility manager at your current organization?
 - c. Roughly how many rooms and lecture halls are in your institution?
 - i. Do any of these rooms and halls use mercury containing thermostats?
 - ii. Can you roughly estimate the percentage of rooms and halls that use mercury containing thermostats?
 - d. Would you say there has been a decline, increase or about the same number of mercury containing thermostats within the institution you manage or have managed in the last five years?
 - i. Would you say that this is the dominant trend in universities across California?
 - e. What is your ethnicity?
 - f. What is your age?
 - g. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?

School District Facility Managers Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) If a thermostat needs to be replaced at a school, who would be responsible for that?
- 2) **If all HVAC related work is outsourced:** I'd like to thank you again for participating with us. Unfortunately, we are currently interested in the recycling habits of organizations that handle HVAC work internally.
 - a. What is the title of the person in this position?
 - b. How many of these workers do you employ?
 - i. How many employees do you have in total?
 - c. Is there a common ethnicity amongst your maintenance personnel?
 - i. About what percentile of your maintenance personnel is X?
 - ii. In what language are these personnel most comfortable speaking?
- 3) What did your maintenance personnel do with the mercury containing thermostat the last time they replaced one?
 - a. Is there a school or district-wide program or procedure in place to inform maintenance personnel about proper disposal of hazardous waste materials?
 - i. Are mercury containing thermostats part of that discussion?
 - b. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your maintenance personnel?
 - i. What is the title of their position?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - e. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - f. In your opinion, how important is proper disposal of mercury containing thermostats to other schools? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
- 4) [Motivators and barriers...]
 - a. If we created an informational brochure or email concerning the proper disposal of hazardous waste materials, would you be willing to distribute it to your maintenance personnel?
 - i. What would motivate your organization to distribute informational brochures or emails to your maintenance personnel?
 - ii. What are potential drawbacks to distributing informational brochures or emails to your maintenance personnel that your organization would have to take into consideration?

- iii. Would you need approval from someone in order to do so?
 - 1. What is that person's position title?
 - a. Given your experience in school facilities administration, would you say that I would get a similar answer from other schools?
 - iv. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?
 - 1. Given your experience in school facilities administration, would you say that I would get a similar answer from other schools?
 - b. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - c. What factors make recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostat the most difficult?
 - d. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 - 1. What would make it time-consuming?
 - e. Before speaking with me, were you aware that your maintenance personnel could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler, or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About you and mercury thermostat recycling...]
- a. Do you have experience working in other schools or school districts besides your current one?
 - i. If so, how many years?
 - b. How many years have you been an administrator at your current organization?
 - c. Roughly how many classrooms are in your district?
 - i. Do any of these classrooms use mercury containing thermostats?
 - ii. Can you roughly estimate the percentage of rooms that use mercury containing thermostats?
 - d. Would you say there has been a decline, increase or about the same number of mercury containing thermostats within the school district you manage or have managed in the last five years?
 - i. Would you say that is the dominant trend in schools across California?
 - e. What is your ethnicity?
 - f. What is your age?
 - g. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?

Retailer Qualitative Interview Questions

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

The Thermostat Recycling Corporation (TRC) is a non-profit organization that facilitates and manages the collection and proper disposal of mercury containing thermostats. TRC is aiming to increase the number of collected mercury containing thermostats this year and is actively looking for organizations to aid in this effort.

- 1) Would you be willing to partner in the mercury recycling effort by becoming a collection site? A small amount of paperwork would be involved initially to become a collection center. A bin would be sent to your store for the purpose of collecting mercury containing thermostats. The cost of shipping the bin of mercury containing thermostats will be covered.
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side.
 - f. Would you need approval from someone in order to be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in your organization, would you say that I would get a similar answer from other locations of your organization to these questions?
 - h. Where would you place such a bin?
 - i. Would space or workplace protocol be a potential issue?
 - i. If the recycling bin and service had an initial fee of \$25, how much would that impact your decision to participate in becoming a collection center?
- 2) Would you be willing to have shelf talkers in the thermostat department concerning proper disposal of mercury containing thermostats?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side?
 - f. Would you need approval from someone in order to be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in your organization, would you say that I would get a similar answer from other locations of your organization to these questions?

- 3) Would you be willing to be a partner in a store-based raffle contest that would provide a raffle ticket to each customer that brings in a mercury thermostat for recycling?
 - a. Why or why not?
 - b. What are the potential positives of this action for your organization?
 - c. What are the potential negatives of this action for your organization?
 - d. Having weighed the positives and negatives, are you likely, neutral, or unlikely to be part of this initiative?
 - e. What can be changed about this initiative to negate some of the potential negatives you discussed from our side
 - f. Would you need approval from someone in order to do be part of this program?
 - i. What is that person's position title?
 - g. Given your experience in your organization, would you say that I would get a similar answer from other locations of your organization to these questions?
- 4) By becoming part of our outreach effort, we can promote your store on our informational literature and social media endeavors. The outreach effort will target contractors and maintenance personnel county wide.
 - a. On a scale of 1 to 9, 1 being very ineffective, 5 being neutral and 9 being very effective, how enticing is this proposal to your organization?
 - i. Please explain how you came to your score.
- 5) How important is the proper disposal of mercury containing thermostats to you personally? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 6) In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 7) In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 8) Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 9) In your opinion, how important is proper disposal of mercury containing thermostats to other home improvement retail companies? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - a. Please explain how you came about your score.
- 10) How many years have you worked in your current organization?
- 11) What is your ethnicity?
- 12) What is your age?

Property Managers of Multifamily Housing Qualitative Interview Questions

- 1) If a thermostat needs to be replaced at one of your properties, who would be responsible for that?
- 2) **If all HVAC related work is outsourced:** I'd like to thank you again for participating with us. Unfortunately, we are currently interested in the recycling habits of organizations that handle HVAC work internally.
 - a. What is the title of the person in this position?
 - b. How many of these workers do you employ?
 - i. How many employees do you have in total?
 - c. Is there a common ethnicity amongst your maintenance personnel?
 - i. About what percentile of your maintenance personnel is X?
 - ii. In what language are these personnel most comfortable speaking?
- 3) What did your maintenance personnel do with the mercury containing thermostat the last time they replaced one?
 - a. Is there a company program or procedure in place to inform maintenance personnel about proper disposal of hazardous waste materials?
 - i. Are mercury containing thermostats part of that discussion?
 - b. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your maintenance personnel?
 - i. What is the title of their position?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score
 - e. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - f. In your opinion, how important is proper disposal of mercury containing thermostats to other property management companies of multi-family housing? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
- 4) [Motivators and barriers...]
 - a. If we created an informational brochure or email concerning the proper disposal of household hazardous materials, would you be willing to distribute it to your maintenance personnel?
 - i. What would motivate your organization to distribute an informational brochure or email to your maintenance personnel?
 - ii. What are potential drawbacks to distributing an informational brochure or email to your maintenance personnel that your organization would consider before taking such action?
 - iii. Would you need approval from someone in order to do so?
 1. What is that person's position title?

- a. Given your experience in the property management business, would you say that I would get a similar answer from other property management companies?
 - iv. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?
 - b. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - c. What factors makes recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostats the most difficult?
 - d. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 - 1. What would make it time-consuming?
 - e. Before speaking with me, were you aware that your maintenance personnel could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About you and mercury thermostat recycling...]
- a. Do you have experience working in other multi-family property management companies besides your current one?
 - i. If so, how many years?
 - b. How many years have you been a property manager at your current organization?
 - c. Roughly how many living units (an apartment or house for use by one family) do you manage?
 - i. Do any of the properties you currently manage use mercury containing thermostats?
 - ii. Can you roughly estimate the percentage of living units that use mercury containing thermostats?
 - d. Would you say there has been a decline, increase or about the same number of mercury containing thermostats within the properties you manage or have managed in the last five years?
 - i. Would you say that is the dominant trend in property management companies across California?
 - e. What is your ethnicity?
 - f. What is your age?
 - g. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?

Property Managers of Commercial/Industrial Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) If a thermostat needs to be replaced at one of your properties, who would be responsible for that?
- 2) **If all HVAC related work is outsourced:** I'd like to thank you again for participating with us. Unfortunately, we are currently interested in the recycling habits of organizations that handle HVAC work internally.
 - a. What is the title of the person in this position?
 - b. How many of these workers do you employ?
 - i. How many employees do you have in total?
 - c. Is there a common ethnicity amongst your maintenance personnel?
 - i. About what percentile of your maintenance personnel is X?
 - ii. In what language are these personnel most comfortable speaking?
- 3) What did your maintenance personnel do with the mercury containing thermostat the last time they replaced it?
 - a. Is there a company program or procedure in place to inform maintenance personnel about proper disposal of hazardous waste materials?
 - i. Are mercury containing thermostats part of that discussion?
 - b. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your maintenance personnel?
 - i. What is the title of their position?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - e. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - f. In your opinion, how important is proper disposal of mercury containing thermostats to other commercial/industrial property management companies? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
- 4) [Motivators and barriers...]
 - a. If we created an informational brochure or email concerning the proper disposal of hazardous waste materials, would you be willing to distribute it to your maintenance personnel?
 - i. What would motivate your organization to distribute informational brochures or emails to your maintenance personnel?
 - ii. What are potential drawbacks to distributing informational brochures or emails to your maintenance personnel that your organization would have to take into consideration?
 - iii. Would you need approval from someone in order to do so?

1. What is that person's position title?
 - a. Given your experience in the property management business, would you say that I would get a similar answer from other property management companies?
 - iv. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?
 1. Given your experience in the property management business, would you say that I would get a similar answer from other property management companies?
 - b. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - c. What factors makes recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostats the most difficult?
 - d. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 1. What would make it time-consuming?
 - e. Before speaking with me, were you aware that your maintenance personnel could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler, or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About you and mercury thermostat recycling...]
- a. Do you have experience working in other commercial or industrial management companies besides your current one?
 - i. If so, how many years?
 - b. How many years have you been a property manager at your current organization?
 - c. Roughly how many office or industrial units do you manage?
 - i. Do any of the properties you currently manage use mercury containing thermostats?
 - ii. Can you roughly estimate the percentage of office or industrial units that use mercury containing thermostats?
 - d. Would you say there has been a decline, increase or about the same number of mercury containing thermostats within the properties you manage or have managed in the last five years?
 - i. Would you say that is the dominant trend in property management companies across California?
 - e. What is your ethnicity?
 - f. What is your age?
 - g. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?

HVAC/General Contractor Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) [Generally, regarding awareness about mercury thermostats...]
 - a. Roughly how many thermostats have you worked on in the months of January through March of this year? How many of those were mercury containing thermostats?
 - b. Roughly how many years have you been in the contracting or maintenance line of work?
 - c. Would you say you have seen a decline, increase or about the same number of mercury containing thermostats in the months of January through March over the last five years?
- 2) What did you do with the mercury containing thermostat the last time you replaced it?
 - a. Is there a program or procedure in place at your work to inform your co-workers about proper disposal of hazardous waste materials?
 - i. Are mercury containing thermostats part of that discussion?
 - b. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your coworkers?
 - i. What is the title of their position?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - e. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - f. In your opinion, how important is proper disposal of mercury containing thermostats at other contracting businesses? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
- 3) [skip if self-employed contractor]
 - a. If we created an informational brochure or email concerning the proper disposal of hazardous waste materials, would you be willing to distribute it to your coworkers?
 - i. What would motivate your organization to distribute informational brochures or emails?
 - ii. What are some potential drawbacks to distributing informational brochures or emails to your coworkers that your organization would have to take into consideration?
 - iii. Would you need approval from someone in order to do so?
 1. What is that person's position title?
 - a. Given your experience as a contractor, would you say that I would get a similar answer from other contracting businesses?
 - iv. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?

1. Given your experience as a contractor, would you say that I would get a similar answer from other contracting businesses?
- 4) [Motivators and barriers...]
- a. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - b. What factors makes recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostat the most difficult?
 - c. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 1. What would make it time-consuming?
 - d. Before speaking with me, were you aware that you could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler, or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About you and mercury thermostat recycling...]
- a. What is your ethnicity?
 - b. What is your age?
 - c. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?
 - d. How harmful is mercury exposure? Please state on a scale of 1 through 9 with 1 being very toxic, 5 being somewhat toxic and 9 being very safe.

Household Hazardous Waste Collection Center Qualitative Interview Questions

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) [Mercury thermostat recycling...]
 - a. If a mercury containing thermostat is brought to a collection center, who is in charge of accepting the thermostat?
 - i. What is this position called?
 - b. Does the person who collects the mercury containing thermostat also deposit the mercury containing thermostat in the proper storage area?
 - i. If not, who is the person who categorizes and deposits the household hazardous waste in the storage area and what is his/her position called?
 - ii. Is the mercury containing thermostat deposited with other mercury containing items or are mercury containing thermostats deposited in a separate bin containing only mercury containing thermostats?
 1. [if not separated] Why is the mercury containing thermostat not separated from the rest of the mercury material?
 - a. Is the time it takes for employees to separate materials a concern?
 - b. Is limited storage space a concern?
- 2) [Awareness of TRC...]
 - a. Have you heard of TRC or Thermostat Recycling Corporation?
 - i. What is the organizational objective of TRC?
 - b. If TRC were to provide a bin specifically for collecting mercury containing thermostats, would you utilize it?
 - i. Would it be helpful?
 - ii. Do Household Hazardous Waste Centers have specific needs or desires in terms of the specifications of this bin?
 1. Dimension
 2. Chemical make-up
 3. Lid
- 3) [Motivators and barriers...]
 - a. The Thermostat Recycling Corporation (TRC) is a non-profit organization that facilitates and manages the collection and proper disposal of mercury containing thermostats. TRC is funded by mercury thermostat manufacturers. TRC is expected to gather a certain number of disposed mercury containing thermostats per year.
 - i. Would you be willing to partner with TRC to send all mercury containing thermostats to a TRC recycling location? TRC will provide the initial bin at no charge and will pay the shipping cost each time that initial bin is sent to TRC.
 1. Why or why not?
 2. [if already part of the program] Is there something TRC can do to make the program easier for HHW centers?
 - ii. What do you believe is the most effective medium to inform your employees about the proper method of handling mercury containing thermostats?
 - iii. If we were to provide an informational brochure or email concerning where to place the mercury containing thermostats and where to ship the bin for your personnel, would you be willing to distribute it?
 1. Why or why not?
 2. What would motivate your organization to distribute an informational brochure or email to the appropriate personnel?

3. What are the potential drawbacks to distributing an informational brochure or email to the appropriate personnel that your organization would have to consider before taking such action?
 4. Would you need approval from someone in order to do so?
 - a. What is that person's position title?
 - i. Given your experience in HHW administration, would you say that I would get a similar answer from other HHW centers?
 5. Who within your organization is in charge of training new personnel on the tasks of HHW centers?
 - a. Given your experience in HHW administration, would you say that I would get a similar answer from other HHW centers?
 6. Who would you say is the best person to speak to about coordinating the distribution of the informational brochure?
 7. Do you consider TRC an ally in the effort of collecting recyclables?
 - a. Why or why not?
- 4) Would you be willing to display informational materials concerning mercury thermostat recycling at your HHW center?
- a. What are the positives to displaying such informational materials?
 - b. What are the potential drawbacks to displaying such informational materials that your organization would have to consider before taking such action?
 - c. Would you need approval from someone in order to do so?
 - i. What is that person's position title?
 1. Given your experience in HHW administration, would you say that I would get a similar answer from other HHW centers?
- 5) Would you be willing to distribute informational materials concerning proper disposal of mercury containing thermostats to residents and contractors who come to the HHW center?
- a. What are the positives to displaying such informational materials?
 - b. What are the potential drawbacks to displaying such informational materials that your organization would have to consider before taking such action?
 - c. Would you need approval from someone in order to do so?
 - i. What is that person's position title?
 1. Given your experience in HHW administration, would you say that I would get a similar answer from other HHW centers?
- 6) Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
- a. Please explain how you came about your score.
- 7) In your opinion, how important is proper disposal of mercury containing thermostats to other household hazardous waste centers? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
- a. Please explain how you came about your score.
- 8) [About you...]
- a. How many years have you been working in the HHW industry?
 - b. How many years have you worked in your current organization?
 - c. What is your ethnicity?
 - d. What is your age?

Hotel and Motel Managers Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) If a thermostat needs to be replaced at one of your properties, who would be responsible for that?
- 2) **If all HVAC related work is outsourced:** I'd like to thank you again for participating with us. Unfortunately, we are currently interested in the recycling habits of organizations that handle HVAC work internally.
 - a. What is the title of the person in this position?
 - b. How many of these workers do you employ?
 - i. How many employees do you have in total?
 - c. Is there a common ethnicity amongst your maintenance personnel?
 - i. About what percentile of your maintenance personnel is X?
 - ii. In what language are these personnel most comfortable speaking?
- 3) [Awareness of mercury thermostats and recycling...]
 - a. What did your maintenance personnel do with the mercury containing thermostat the last time they replaced one?
 - i. Is there a company program or procedure in place to inform maintenance personnel about proper disposal of hazardous waste materials?
 1. Are mercury containing thermostats part of that discussion?
 - ii. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your maintenance personnel?
 1. What is the title of their position?
 - iii. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 1. Please explain how you came about your score
 - iv. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 1. Please explain how you came about your score
 - v. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 1. Please explain how you came about your score
 - vi. In your opinion, how important is proper disposal of mercury containing thermostats to other hotel/motel management companies? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 1. Please explain how you came about your score
 - a. If we created an informational brochure or email concerning the proper disposal of hazardous waste materials, would you be willing to distribute it to your maintenance personnel?
 - i. What would motivate your organization to distribute informational brochures or emails to your maintenance personnel?
- 4) [Motivators and barriers...]

- ii. What are potential drawbacks to distributing informational brochures or emails to your maintenance personnel that your organization would have to take into consideration?
 - iii. Would you need approval from someone in order to do so?
 - 1. What is that person's position title?
 - a. Given your experience in the lodging business, would you say that I would get a similar answer from other lodging businesses?
 - iv. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?
 - 1. Given your experience in the lodging business, would you say that I would get a similar answer from other lodging businesses?
 - b. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - c. What factors make recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostats the most difficult?
 - d. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 - 1. What would make it time-consuming?
 - e. Before speaking with me, were you aware that your maintenance personnel could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler, or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About mercury thermostat recycling...]
 - a. Do you have experience working in other hotel/motel companies besides your current one?
 - i. If so, how many years?
 - b. How many years have you been a manager at your current organization?
 - c. Roughly how many rooms do you manage?
 - i. Do any of the rooms you currently manage use mercury containing thermostats?
 - ii. Can you roughly estimate the percentage of rooms that use mercury containing thermostats?
 - d. Would you say there has been a decline, increase or about the same number of mercury containing thermostats within the properties you manage or have managed in the last five years?
 - i. Would you say that is the dominant trend in hotel/motel companies across California?
 - e. What is your ethnicity?
 - f. What is your age?
 - g. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?

Demolition Contractor Qualitative Interview Questions

Introductory discussion

Before we get started, I'd like to reiterate that what we discuss today will be entirely anonymous.

- 1) [About you and mercury thermostat recycling]
 - a. Roughly how many thermostats have you worked on in the months of January through March of this year? How many of those were mercury containing thermostats?
 - b. Roughly how many years have you been in the demolition contracting business?
 - c. Would you say you have seen a decline, increase or about the same number of mercury containing thermostats in the months of January through March over the last five years?
- 2) What did you do with the mercury containing thermostat the last time you replaced it?
 - a. Is there a program or procedure in place at your work to inform your co-workers or employees about proper disposal of hazardous waste materials?
 - i. Are mercury containing thermostats part of that discussion?
 - b. Who in your organization is in charge of making sure hazardous waste materials are disposed of properly by your coworkers or employees?
 - i. What is the title of their position?
 - c. Before taking this survey, how important was the proper disposal of mercury containing thermostats to you? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - d. In your opinion, how important is the proper disposal of mercury containing thermostats to others? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - e. Before taking this survey, how important was the proper disposal of mercury containing thermostats to your organization? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
 - f. In your opinion, how important is proper disposal of mercury containing thermostats at other demolition contracting businesses? Please state on a scale of 1 to 9 with 1 being very unimportant, 5 being somewhat important and 9 being very important.
 - i. Please explain how you came about your score.
- 3) If we created an informational brochure or email concerning the proper disposal of hazardous waste materials, would you be willing to distribute it to your coworkers or employees?
 - a. What would motivate your organization to distribute informational brochures or emails?
 - b. What are some potential drawbacks to distributing informational brochures or emails to your coworkers or employees that your organization would have to take into consideration?
 - c. Would you need approval from someone in order to do so?
 - i. What is that person's position title?
 1. Given your experience as a demolition contractor, would you say that I would get a similar answer from other demolition contractors?
 - d. Who within your organization is in charge of training maintenance personnel concerning topics such as disposal of hazardous waste materials?
 - i. Given your experience as a demolition contractor, would you say that I would get a similar answer from other demolition contracting businesses?
- 4) [Motivators and barriers...]

- a. What factors motivate your organization to recycle mercury containing thermostats?
 - i. Of the factors you mentioned, which factor motivates your organization the most?
 - b. What factors makes recycling mercury containing thermostats difficult for your organization?
 - i. Of the factors you mentioned, which factor makes recycling mercury containing thermostat the most difficult?
 - c. Do you suspect that the process of recycling mercury containing thermostats will be inconvenient for your organization? Please state on a scale of 1 to 9 with 1 being very inconvenient, 5 being somewhat inconvenient and 9 being very convenient.
 - i. Why or why not?
 - ii. Do you suspect it will be time-consuming?
 - 1. What would make it time-consuming?
 - d. Before speaking with me, were you aware that you could dispose of mercury containing thermostats at a household hazardous waste center or a participating retailer, wholesaler, or contracting business?
 - i. Which of the four options were you unaware of?
- 5) [About you and mercury containing thermostats...]
- a. What is your ethnicity?
 - b. What is your age?
 - c. Before taking this survey, were you aware that mercury containing thermostats are required to be only disposed in participating recycling locations?
 - i. Do your superiors know about this?
 - ii. Do your maintenance personnel know how to identify mercury containing thermostats?
 - iii. Do your maintenance personnel know how to properly dispose of mercury containing thermostats?
 - d. How harmful is mercury exposure? Please state on a scale of 1 through 9 with 1 being very toxic, 5 being somewhat toxic and 9 being very safe.

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Comprehensive list of all of the regionally and nationally accredited 4-year colleges and universities in California

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Table 2: Sources: U.S. Census Bureau, 2010-2014 American Community Survey. "Table DP04: Selected Housing Characteristics."; U.S. Census Bureau, 2006-2010 American Community Survey. "Table S0101: Age and Sex.". "www.maprisk.com"

Table 3: Data based on TRC bin receipts from City of San Bernardino, CA

Table 4: Source: U.S. Census Bureau, 2010-2014 American Community Survey. "Table DP03: Selected Economic Characteristics."

Table 5: Sources: U.S. Census Bureau, 2010-2014 American Community Survey. "Table DP03: Selected Economic Characteristics."; U.S. Census Bureau, 2006-2010 American Community Survey. "Table S0101: Age and Sex."; "www.maprisk.com"

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Table 8: Source: U.S. Census Bureau, 2010-2014 American Community Survey. “Table DP04: Selected Housing Characteristics.”

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