



California Mercury Thermostat Study ** Frequently Asked Questions **

Why is this study needed?

The number of mercury thermostats in residential or commercial buildings is largely unknown. With the exception of one statistical study conducted by King County, WA on commercial buildings, current estimates of the inventory and annual removals of mercury thermostats rest on very crude and often unsubstantiated assumptions.

Developing targets for recycling requires more meaningful information on the inventory and removal rate of mercury thermostats. The results of this study, in part, will be used to establish goals for waste mercury thermostat collection programs in California.

Who is conducting the study?

The Thermostat Recycling Corporation (TRC) contracted Skumatz Economic Research Associates, Inc. (SERA) to conduct the study. Dr. Skumatz has a national reputation in integrated planning, program evaluation and statistical analysis as applied to recycling and energy efficiency. She holds a Ph.D. in Economics (econometrics) from the Johns Hopkins University and has expertise in both quantitative and policy issues related to solid waste. Dr. Skumatz has applied her background in statistics and survey research to the design, conduct, and analysis of waste composition studies, forecasting work, residential and commercial surveys on attitudes, waste management behavior, set-outs surveys, focus groups and other projects for numerous clients. Her client base includes domestic solid waste agencies from Alaska to Florida as well as international organizations. In the energy field, she developed the basic methods used as protocols for energy efficiency measure retention and removal studies, and for the CPUC has evaluated more than 100 measure lifetime / retention studies in California to identify “best practices.”

Dr. Skumatz is a member or has served on the governing board of the National Recycling Coalition, the Solid Waste Association of North America, the California Resource Recovery Association, and numerous other recycling and waste management groups in addition to professional economic societies. She has received national lifetime achievement awards from both SWANA and National Recycling Coalition for her achievements in quantitative research on solid waste.

Who is funding the study?

The 28 corporate members of the Thermostat Recycling Corporation (TRC), all of which historically sold mercury thermostats in the US, are funding the SERA study. TRC is a non-profit corporation that collects and properly disposes end-of-use mercury thermostats at no cost to consumers and HVAC contractors.

How will the study be conducted?

SERA researchers will use random and stratified random samples for the survey. They will purchase samples of addresses in California for residential structures and for businesses (commercial buildings) based on business size (number of employees). A postcard with a link to a web survey will be sent to each address. A toll-free number will be included for individuals who do not have internet access.

What questions will be in the survey?

Data collected will include key analytical parameters of interest (for example: the type of thermostat, how many thermostats in the structure, age of building, year remodeled, square feet, etc.) as well as demographic data to identify biases in the responses and to enhance the explanatory power of the estimates.

How many responses do you need for the survey to assure statistical rigor?

SERA requires approximately 300 responses for residential and commercial structures to achieve a 90% confidence and +/-5% accuracy. The sample size might seem small, but the number of responses to represent a city of 10,000 and state of 10,000,000 is not very different. This is why, for instance, Nielsen can use nationwide samples of 1200 and achieve accuracy nationwide.

How will the data be analyzed?

Before any analysis takes place, the data will be reviewed for bias including both response bias (*e.g.*, age classification of buildings) and missing data (*e.g.*, younger households may not know when the house was remodeled.).

SERA will conduct two types of analyses. Predictive regression models (like the published King County study) will be used to estimate the total number of mercury thermostats in place. Additionally, SERA will analyze and predict lifetime and annual “flow” of thermostats out of buildings. This will be based on methods developed by SERA previously to predict lifetimes and removals of energy using equipment.

When will the study be completed?

California statute requires the survey to be completed by December 1, 2009. TRC will provide all survey data and results to DTSC by December 31, 2009.