

**VIA EMAIL and U.S. Mail**

April 1, 2015

Mr. Thomas Metzner  
Connecticut Department of Energy and Environmental Protection  
79 Elm Street  
Hartford, Connecticut 06106

Subject: Thermostat Recycling Corporation's 2014 Annual Report

Dear Mr. Metzner:

Attached is TRC's annual collection report for calendar year 2014. A copy of this report is posted on TRC's website at: [www.thermostat-recycle.org/resources/media\\_center](http://www.thermostat-recycle.org/resources/media_center).

TRC would like to highlight some aspects of the 2014:

- Nationally TRC recovered more than 203,000 whole thermostats in 2014, a 12 percent increase over 2013. This is the most thermostats TRC has recovered in one year since the program's inception in 1998.
- The recovery of whole thermostats increased in Connecticut by 55% in 2014. Our analysis indicates TRC increased the number of thermostats recovered last year by expanding access to the program and by encouraging the timely return of TRC containers.
- TRC added two full-time employees in 2014. Ryan Kiscaden, Director of National Accounts, joined the staff in January and Alex Monie, Marketing and Operations Coordinator, joined the staff in September. Beyond additional labor, TRC continued to expand the scope and sophistication of its marketing and promotion efforts.
- Program data from Connecticut and other states continues to indicate that access remains the most critical component of the program. Meaningful increases in collections occur when additional wholesalers and/or HVAC contractors participate, or if current low-performing locations substantially improve their levels of participation. TRC is not seeing that additional marketing and promotion, with a static collection location base, contributes meaningful increases in collections.

TRC welcomes the opportunity to review this report with you and discuss our 2014 promotion efforts and plans for 2015. I may be reached at 571-447-4315 or by email at [mark.tibbetts@thermostat-recycle.org](mailto:mark.tibbetts@thermostat-recycle.org).

Sincere Regards,



Mark Tibbetts  
Executive Director

# TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut Calendar Year 2014 Activities

## Exhibit 1: 2014 Connecticut Collections by Brand

<u>Brand Holder</u>	<u>Thermostats</u>	<u>Count</u> <u>Switches</u>	<u>Pounds</u> <u>Mercury</u>
Burnham Holdings	14	14	0.09
Carrier	155	311	1.93
Climate Master	2	8	0.05
Crane Company	1	1	0.01
General Electric Corporation	5	10	0.06
Goodman Global	1	2	0.01
Grainger	1	1	0.01
Honeywell	1955	2447	15.17
Hunter Fan	1	1	0.01
ITT Corporation	4	4	0.02
Lennox	59	87	0.54
Lux Products	9	10	0.06
Marley-Wylain Company	6	6	0.04
McQuay International	36	86	0.53
Nordyne Corporation	6	7	0.04
PSG Controls	4	7	0.04
Rheem	9	12	0.07
Sears Holdings	9	9	0.06
Taco, Inc.	11	11	0.07
Trane	30	52	0.32
White Rogers	109	144	0.89
York/Johnson Controls	17	22	0.14
----- Non-Member Brands -----			
Tempmaster	18	49	0.30
TETCO	1	2	0.01
ADDISON	2	8	0.05
NEWMAC	1	1	0.01
Singer	1	1	0.01
CLIMATE CONTROL	1	2	0.01
TIMKEN	1	1	0.01
STEWART WARNER	1	1	0.01
WIRSBO	10	10	0.06
florida heat	1	1	0.01
HB SMITH	2	2	0.01
EFM	1	1	0.01
----- NOM (Manufacturer not Identifiable) -----			
NOM	1	1	0.01
Loose Bulbs	0	538	3.34
<b>TOTAL</b>	<b>2,485</b>	<b>3,870</b>	<b>23.99</b>

In Connecticut, TRC recovered the equivalent of 2,886 mercury thermostats from 2,485 whole mercury thermostats plus 538 mercury switches removed from thermostats (each thermostat recovered from Connecticut in 2014 contained on average 1.3 mercury switches). A total of 24 pounds of mercury was diverted from solid waste.

TRC recovered approximately 4% of all thermostats from HVAC contractors, 2% from HHW locations, and 94% from HVAC wholesale distributor collection locations.

### Waste Mercury-Added Thermostat Management

Bins with waste mercury-switch thermostats are received at the fulfillment/processing center in Golden Valley, Minnesota. The facility is owned and operated by Honeywell International under contract with TRC.

Bins are received at the loading dock and sent to the TRC processing area. The bin and plastic liner are opened and the contents are identified, sorted, and tallied. The following data is recorded for each bin returned and processed: bin number, business name (location name), city, state, zip code, date returned, number of thermostats and mercury switches by manufacturer and any non-conforming material.

The bin is returned to the location that sent it in with a new prepaid address label within 72 hours of receipt. The thermostats are stored and staged in a plastic lined carton in a storage area for final processing. The containers are dated and processed in order received, first in-first out.

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The containers are returned from the storage area to the TRC processing area to have the mercury bulbs removed from the plastic housing. Universal Waste Regulations require the disposal of waste within 12 months of generation. TRC's processor requires that the disposal occur within 6 months of generation and TRC follows the more stringent requirement. Small quantities of thermostats are removed from the container, which is then closed again, and placed at the bulb removal workstation on a tray that contains any potential mercury spillage. The bulbs are removed from the thermostats and placed into a 2 quart container at the work station. If a bulb breaks and the mercury spills, the work area is designed to contain the spillage and the operators are trained in the clean-up and disposal of mercury. The TRC processing area is equipped with special mercury vacuum cleaners and the work area is vacuumed at the end of the work day to assure that any spillage is cleaned up and not left to evaporate.

The 2 quart container is emptied into a special 55 gallon drum which is labeled and dated according to regulations. The drum is sealed with a band and is only opened when contents are being added to it. Special negative pressure venting assures any fumes are drawn away and vented when the drum is opened.

The 55 gallon drum is then shipped to Veolia Environmental Services in Port Washington, Wisconsin for final processing of the mercury ampoules (switches) Veolia Environmental Services meets or exceeds all local, state, federal and EPA regulations for the management of the product. Veolia's approvals for mercury recovery/recycling include:

- EPA - identification WIR000130591 (Veolia Environmental Services, Inc.)
- EPA BDAT Requirement - satisfied by all recovery operations
- CERCLA (Comprehensive Environmental Response Compensation and Liability Act)
- Wisconsin Department of Natural Resources

All facilities processing thermostats shipped to TRC follow all EPA guidelines and regulations. TRC has a facility license from Hennepin County Minnesota for the operation of the TRC. Honeywell, Inc. has a Hazardous Waste Generator license from Hennepin County. All persons who handle mercury thermostats as part of the TRC operation receive training in the handling of Hazardous Waste and Universal Waste.

## **Program Education and Outreach**

### **Direct Mail**

TRC utilized direct mail, targeting both collection locations and HVAC contractors/technicians.

#### **Collection Locations—**

- To encourage collection point participation and to stimulate timely return of TRC collection containers TRC periodically mailed postcards (Exhibit 2) to collection points that had not

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returned a TRC container within the last 12 months. TRC increased the frequency of these mailings in 2014 and reminders were dropped in March (8), April (64), July (76) and December (47).

Additionally, TRC revised the postcard art in September (Exhibit 3). The revised art includes an image of the TRC recycling container and updated guidance on returning the container or requesting replacement shipping materials. Revisions to the postcard art improved the response rate of these mailings.

### Exhibit 2: Postcard Used March - July



### Exhibit 3: Revised Postcard



- In April TRC sent a letter to HVAC wholesale distributors in the state reminding them that they will be prohibited from selling any thermostat after July 1<sup>st</sup> if they do not act as a collection point for mercury thermostats (Appendix B). The letter detailed TRC's program and offered free program materials.

### HVAC Contractors/Technicians—

- TRC developed an oversized 9x6 full-color postcard targeting larger contractors with more than 10 employees. TRC mailed this postcard twice in July to 220 contacts in Connecticut and repeated the mailing twice more in August.

The postcard reminded HVAC contractors of their legal obligation to recycle mercury thermostats. The postcard also included a link to an online survey for an opportunity to win a 42" flat screen TV for completing the survey (Exhibit 4).

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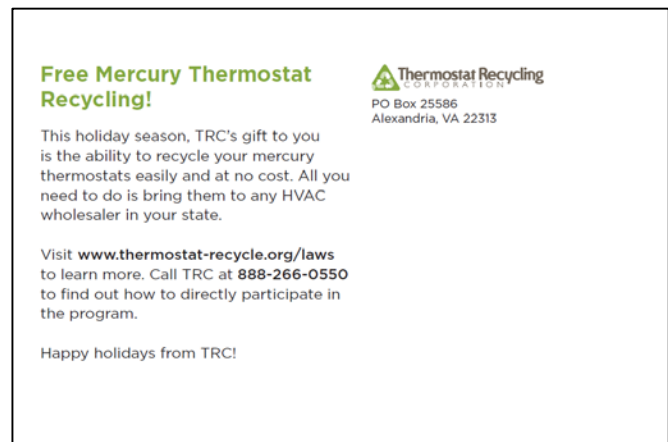
TRC received no requests for recycling containers from Connecticut contractors or survey responses.

### Exhibit 4: 9x6 Summer Postcard



- In December TRC developed a 4x6 full-color postcard. It was holiday themed and the messaging centered on the gift of free mercury recycling (Exhibit 5). It was mailed to 3,309 HVAC contracting businesses in Connecticut.

### Exhibit 5: Holiday Postcard



- Mouse Pad Mailing—TRC developed a branded mouse pad to mail with no envelope to garner a higher open rate (Exhibit 6). This was mailed in October to 127 HVAC contracting businesses in Connecticut with more than 10 employees. The mouse pad included a sticker with a limited-time offer to order a free TRC container. TRC received one request for a container from a Connecticut contractor.



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## Exhibit 6: Mouse Pad Mailing



- In June TRC attended the New England Fuel Institute (NEFI) conference which is geared toward oil, heat, propane, biofuel and motor fuel dealers and associated companies. Prior to the show TRC obtained a list of attendees and mailed a letter to those living in Connecticut (Appendix C). The letter informed them of the new law requiring HVAC contractors to recycle all mercury thermostats removed from service, effective July 1<sup>st</sup>. It also offered a free TRC recycling container to anyone visiting TRC's booth at the show.

## Advertising

TRC's primary target remains HVAC contractors/technicians and HVAC wholesale distributors. For the contractors/technicians segment, TRC focuses on residential and light commercial contractors. The second segment is HVAC wholesale distributor locations, as they remain the most convenient location for the majority of Connecticut-based technicians/contractors to purchase replacement thermostats and recycle waste mercury thermostats.

Homeowners remain a secondary market as they represent a small segment (+/- 10%). Since replacing a mercury thermostat is a rare event (if ever) for a consumer, TRC derives the greatest impact/value from its marketing activities by concentrating on the channel segment that conducts the vast majority of repeat thermostat replacements.

TRC's 2014 advertising campaign continued to focus mostly on "easy and free" and "It's the law" messaging (where applicable, as only a limited number of states ban the disposal of mercury thermostats in solid waste and/or require HVAC contractors to recycle all mercury thermostats removed from service).

The purpose of TRC's advertisements were two-fold: 1) continue to build brand/program awareness and 2) increase program participation by raising awareness of specific legal obligations to recycle and the ease of recycling.

**Print-based advertising** — TRC again emphasized frequency with its 2014 advertising. TRC also expanded the scope of the campaign. Local trade channel options remain limited and past general

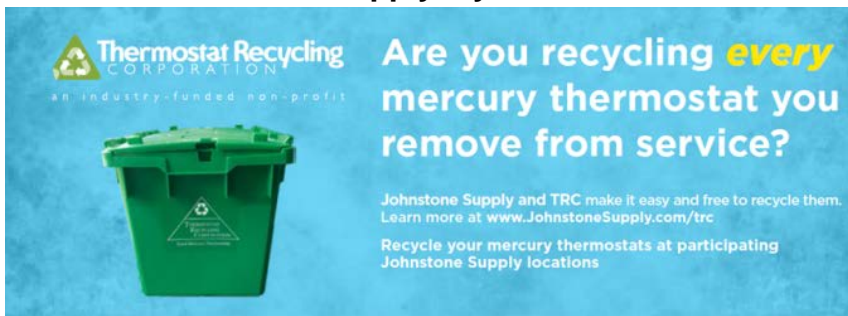
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consumer advertising in other states has led to no demonstrable increases in collections. Therefore, TRC continued to primarily rely on national and regional trade publications like *HVAC Insider New England*.

New advertising included:

- Johnstone Supply Flyer, a printed version of their online catalogue that is mailed to more than 300,000 HVAC contractors nationwide. TRC was featured on the back cover in the August and December issues (Exhibit 7). Johnstone provided this ad at no cost to TRC. Johnstone Supply has three locations in Connecticut.

### Exhibit 7: Johnstone Supply Flyer Ad



TRC continued print-based advertisements in the following national/regional HVAC trade publications:

- ***HVAC Insider New England***, a regional publication which has a monthly circulation of 8,940 that includes contractors, technicians, and wholesale distributors in Connecticut. The advertisement was 1/2 page in size in 2-color and ran in the May, June, September and October issues. (Exhibit 8)
- ***Distribution Center Magazine***, the exclusive publication of Heating, Air Conditioning & Refrigeration Distributors International (HARDI) with more than 11,000 bi-monthly subscribers. TRC ran a full-color 1/4 page ad in May and December promoting the Big Man on Planet competition. (Exhibit 9)
- ***HVACR Business Magazine***, a national publication with approximately 34,000 qualified subscribers, of which approximately 1,544 are in New England. TRC ran a 2-color 1/4 page ad January – March. (Exhibit 10)

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Exhibit 8: HVAC Insider New England Ad



Exhibit 9: Distribution Center Ad



Exhibit 10: HVACR Business Magazine Ad



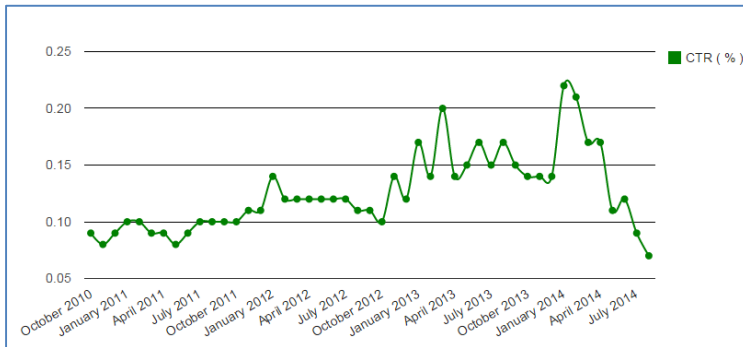
**Web-based advertising** — TRC continued the use of rotating banner advertisements in 2014, with changes in scheduling and scope.

TRC's web-based ads gained a cumulative total of more than 906,000 impressions, and email ads were sent to more than 19,000 subscribers. An impression is a measure of the number of times an ad is displayed, and a CTR is the number of times a click is made on the advertisement divided by the total impressions. Exhibit 11 presents benchmark data from Google's Display Benchmarks tool on average CTR's in the U.S. by year. As seen below, the highest average CTR was 0.2%, so TRC's CTR performance exceeded the national average.



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## Exhibit 11: Google's Display Benchmarks Tool



New advertising this year included:

- **OESP Dedicated Eblast**, emailed to 1,921 oil and energy service professionals predominantly from Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Virginia. The email was exclusively about TRC's program and offered a limited-time offer to sign-up for a free TRC bin. The email was sent in April and received 658 impressions and 33 website link clicks. (Exhibit 12)
- **HVACR Business "Ahead of the Curve" Enewsletter**, a monthly newsletter that reaches approximately 9,000 opt in readers each month. TRC ran a rotating banner ad in February, March and April. (Exhibit 13)
- **ACHR News How-To Video**, TRC's program training video was featured in the "how to" section of ACHRNews.com in July. The video received 148 views. The video was also featured on their YouTube page for the remainder of the year where it received an additional 352 views.
- **Contracting Business Magazine dedicated Email blast**, sent twice to 5,989 subscribers in states with disposal bans, including 277 in Connecticut (Exhibit 14). The July mailing received 944 opens and a 16% CTR, and the September mailing received 775 opens and a 13% CTR, which the publisher indicated was a high open rate for them.

## Exhibit 12: OESP Dedicated Eblast

The graphic for the OESP Dedicated Eblast features the Thermostat Recycling Corporation logo at the top left. Below it, a green recycling bin is shown. The main text asks, "Would you Throw 1,000 CFL Bulbs into the Trash?" and explains that mercury thermostats contain over 1,000x more mercury than a CFL bulb. It encourages signing up for a free reusable recycling container that holds up to 100 thermostats at a time. The bottom section provides instructions on how to participate, including dropping off thermostats at a nearby location or mailing them. A footer note states that the program is available in the following states: CA, CT, FL, IL, IN, MI, MN, NY, RI, SD, VA, WI, and WY.

## Exhibit 13: HVACR Business Enewsletter Ad

The HVACR Business Enewsletter Ad features a blue background with a white recycling bin. The text reads, "Recycling mercury thermostats has never been easier." Below this, the Thermostat Recycling Corporation logo is displayed, followed by the contact information: "To order recycling bins, call us at 888.266.0550." The logo also includes the tagline "an industry-funded non-profit".

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### Exhibit 14: Contracting Business Magazine Dedicated Email Blast



TRC also continued web-based advertisements on the following HVAC industry websites below:

- **ACHRNews.com**, a website that assists the decision-makers from all branches of the air HVAC industry including contractors, manufacturers, distributors, parts and supply wholesalers, and service companies. More than 181,000 HVACR professionals visit the website every month, totaling more than 218,000 monthly website visits. TRC ran a banner ad January – March and October – December that resulted in 165,904 combined impressions and an average CTR of 0.1%. (Exhibit 15)
- **ACHR Newsletter**, a weekly email blast with more than 12,000 subscribers. TRC ran a banner ad for 4 issues in March with a total open rate of 11,740 and a CTR of 0.4%. (Exhibit 16)
- **HVACRBusiness.com**: TRC ran a banner ad in July that resulted in 6,638 impressions and a CTR of 0.32%. (Exhibit 17)
- **HVAC-Talk.com**, an online forum that averages 310,000 monthly visitors. TRC ran a rotating banner ad February – March and September – October which resulted in 283,397 total impressions and an average CTR of .06%. (Exhibit 18)
- **OESP Advantage Enewsletter**, a weekly email with 3,000 subscribers predominantly from Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and Virginia. TRC ran a banner ad for 12 consecutive weeks August – November which resulted in 11,365 total impressions and an average CTR of 0.2%. (Exhibit 19)

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**Exhibit 15: ACHRNews.com Ad**



**Exhibit 16: ACHR Newsletter Ad**



**Exhibit 17: HVAC Business.com**



**Exhibit 18: HVAC-Talk.com**



**Exhibit 19: OESP Advantage Enewsletter**



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**Google AdWords** — Since 2011 TRC has deployed a Google AdWord campaign that geo-targets contractors/technicians and consumers (homeowners) in states with mercury thermostat disposal bans, including Connecticut. Advertisements appear on Google search results pages after an individual searches terms related to TRC's mission (E.g. thermostat replacement, contracting recycling regulations, mercury thermostat recycling, programmable thermostats, etc.).

TRC continued this campaign in 2014 with enhancements to Connecticut's landing page that included a direct link to the Connecticut's state laws page (Exhibit 20). TRC launched the campaign in March, coinciding with the launch of the updated website, and ran it through calendar year. TRC views this as the preferred option to reach consumers because of the campaign's extensive and targeted reach.

The Connecticut campaign yielded 195,790 impressions with an average CTR of 0.34%

### Exhibit 20: Google AdWords Landing Page



The screenshot shows the TRC Corporation website's landing page for Connecticut Mercury Thermostat Recycling. The header includes the TRC logo, navigation links (Find a Site, Sign Up, State Recycling Programs, Resources, About, News, Blog, Contact Us), and social media icons. A search bar at the top right allows users to "Find A Collection Site Near You" by entering a zip code. The main content area features a large image of a recycling bin filled with thermostats, with text stating "Recycling mercury thermostats made easy." and "Compliance with state law made even easier." Below this is a search bar for "Enter Zip Code" and a "Submit" button. A link at the bottom of the main content area reads "Find out more about Connecticut's mercury thermostat laws and collection programs." The footer contains a paragraph about the importance of recycling mercury thermostats and a note that TRC is an industry-funded non-profit.

## TRC's Website

In March, TRC launched an updated website with enhanced functionality. Updates include:

- **Find a Site page:** updated to direct people to active collection sites (locations returning a bin within 14 months). This assists homeowners and contractors/technicians in identifying convenient collection sites. It also assists TRC in filtering out closed, consolidated or moved locations from search results. A new feedback form allows visitors to inform TRC if a site is no longer collecting. This was the second most visited page on TRC's website after the homepage.
- **State Recycling Programs:** features a clickable map of the United States to easily view different state laws and regulations. This supports easier navigation and lists state-specific

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information about mercury thermostat disposal. This is the 3<sup>rd</sup> most visited page. The Connecticut program page's language was revised and includes a link to the Connecticut Department of Energy & Environmental Protection website.

- **Become a Collection Site:** now supports an online application to become a collection site and PDF versions are still available. It is the fourth most visited page.
- **Collection Partners:** a new section that lists collection partner locations that have committed to offering TRC's mercury thermostat collection program at all of their locations. This highlights information about each company and directs visitors to their websites. This gives TRC a new marketing value-add to participating companies.
- **Blog:** provides updates about TRC travels to trade shows, HVAC industry commentary, tips, etc.
- **Highlights:** shows select program accomplishments and offers factoids, testimonials and more
- **Contact Us:** a new online form to submit an inquiry directly to TRC.
- **Veolia:** a partnership to assist visitors in recycling mercury-containing products other than thermostats.

Website traffic continued to grow in 2014. TRC increased its total annual visitors by 50% compared to 2013. There was a 102% increase of visitors from Connecticut to TRC's website and the state ranked 10th among the country in terms of its share of visitors to the site, up from 15th in 2013. The increase in traffic reflects the new redesign/enhancements, impact of paid trade channel advertising, Google Ad-word campaign, and search engine optimization efforts.

### Earned Media

In 2014 TRC continued to enjoy positive and frequent coverage within the industry trade press, appearing more than 25 times through a variety of publications. TRC issued a number of media releases and most were picked up generating additional exposure for the program.

Notably, TRC continued to receive coverage and editorial pieces in industry leading publications such as *The Air Conditioning and Refrigeration News* (110,000 circulation), *Distribution Center Magazine* (circulation 11,000), *Indoor Environment & Energy Efficiency Magazine* (mailed to every ACCA member who specializes in residential, commercial, and industrial applications), and *RSES Journal* (239,640 Web visitors).

### Trade Shows, Conferences & Presentations

TRC attended and/or exhibited at the following trade shows:

#### January 21 – 23: AHRI Expo

*New York City, NY*

AHR Expo is the largest national trade show for the HVACR industry. TRC staff exhibited and promoted the program to HVAC contractors, manufacturers and distributors. The show had a total



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registered attendance of over 42,887 from 1,942 companies. Specifically, 3,440 attendees were from New England.

### **March 3 – 5: Johnstone Supply Member Meeting**

*Nashville, TN*

Johnstone Supply is a cooperative wholesaler distributor of HVAC parts and equipment with 350 locations nationwide, including three in Connecticut. Johnstone's Annual Membership meeting is invitation only and TRC again attended and exhibited as part of an ongoing effort to encourage and expand the cooperative's members' participation in the program. The event is well attended by owners and senior staff and it was a unique opportunity to engage directly with key decision makers.

### **March 17 – 19: The Indoor Environment & Energy Expo**

*Nashville, TN*

Co-presented by ACCA, this expo is the largest marketplace for the indoor environmental and energy services contracting industry. TRC staff exhibited and promoted the program to attending HVAC contractors.

### **March 31 – April 2: HVACR Excellence Educators & Training Expo**

*Las Vegas, NV*

The nation's largest conference that is dedicated to providing professional development exclusively for HVACR educators and trainers. TRC staff exhibited and promoted the program to educators to include information on mercury thermostat recycling in their trainings.

### **April 28 – May 1: ACI National Home Performance Show (New)**

*Detroit, MI*

Affordable Comfort, Inc. (ACI) is the leading educational resource for the home performance industry. ACI trade shows feature product manufacturers and distributors, educational institutions, utilities, nonprofits, government agencies, industry media, trade associations, energy consultants, and more. TRC staff exhibited at this show for the first time.

### **May 12 - 13: National Association of Oil and Energy Service Professionals**

*Mohegan Sun, CT*

This was OESP's annual convention and trade show part one, with over 2,500 attendees representing close to 300 companies across New England. TRC staff again exhibited at this show.

### **June 10 – 11: New England Fuel Institute (NEFI) (New)**

*Worcester, MA*

New England Fuel Institute (NEFI) is a nationally recognized organization of over 1,100 independent Oil, heat, propane, biofuel and motor fuel dealers and associated companies. TRC staff exhibited at this show for the first time.

### **August 4 – 6: Association for Energy Service Providers (AESP) Summer Conference (New)**

*San Francisco, CA*

AESP is the premier organization for professionals in the energy efficiency industry. Over 300

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industry professionals attend the event including utility professionals and industry advisors/implementers. TRC staff attended this show for the first time.

### **September 17 – 18: International Facility Management Association (IFMA) World Workplace Conference & Expo 2014 (New)**

*New Orleans, LA*

Held annually, IFMA's World Workplace meets the educational and networking needs of professionals who support the built environment. IFMA promotes World Workplace year-round to more than 23,000 members in 85 countries; plus an additional 200,000 workplace professionals. TRC attended the show.

### **September 22 – 23: Oil and Energy Service Professionals Road Show**

*Gettysburg, PA*

This was OESP's annual convention and trade show part two, with over 2,500 attendees representing close to 300 companies across New England. TRC staff again exhibited at the show.

### **October 9: The Granite Group Trade Show (New)**

*Groton, CT*

Part of the series also hosted in Manchester, NH in September. TRC staff exhibited for the first time with 520 contractor attendees.

### **December 6-9: Heating Air-conditioning and Refrigeration Distributors International (HARDI)**

*San Antonio, TX*

TRC staff again exhibited and participated in the "Booth Program," which provides for 1-on-1 sessions with senior executive staff from HARDI member companies. This event targeted representatives of approximately 80% of the wholesale market for HVACR products. TRC also presented its annual "Big Man on the Planet Award." [Other Program Activities](#)

Some examples of other program activities include:

- Site Visits to Connecticut Wholesale Distributors — TRC staff visited over 50 collection locations to encourage participation and or facilitate the return of the TRC container. See Appendix D for more details.
- Outbound Calls to Collection Points — TRC staff made over ten proactive calls to collection locations that hadn't returned a bin within the previous 12 months. Calls reminded locations of the need to comply with universal waste regulations and to assist with arranging transport of the bin.
- Dunkin' Donuts Promotion – In October TRC launched a gift card promotion at New England R.E. Michel locations, including three locations in Connecticut. The promotion offers customers a \$5 gift card to Dunkin' Donuts for every five mercury thermostats they return, while supplies last. TRC provided each participating location gift cards and a full-color counter card to promote the program (Exhibit 21). The promotion is ongoing as of March 2015.

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- **Dump Bin Displays** — In July TRC developed branded displays to showcase the TRC container at HVAC wholesale distributor collection locations (Exhibit 22) and enhance the visibility of the program at HVAC wholesale collection locations. These displays were provided at no-cost to distributors nationwide, including several in Connecticut.
- **BMOP** — TRC partnered with Heating Air-conditioning and Refrigeration Distributors International (HARDI) for the third annual Big Man on Planet (BMOP) competition in 2014. In April TRC sent an invitation to the executives of 320 HARDI member companies to encourage them to participate in the program (Exhibit 23). In 2014 TRC restructured the program to allow for multiple winners and included a \$500-\$1,000 employee incentive to the top branch location within each tier. Participation increased 67% over 2013. Twenty-one distributors with more than 1,000 locations competed nationwide. The competition ran May 1<sup>st</sup> – October 31<sup>st</sup> and participating wholesalers shipped TRC nearly 60,000 thermostats during the competition.
- After attending the Indoor Environment & Energy Expo, TRC obtained a list of attendees and sent a letter in April to remind them of TRC's program, including eight in Connecticut (Appendix E). The letter also offered a free recycling container for larger contractors.
- **Social Media** — TRC's Twitter account saw a 15% increase in number of followers in 2014, and its Facebook page enjoyed a 21% increase of page "Likes"

**Exhibit 21: Dunkin' Donuts Promotion Counter Card**



**Exhibit 22: Dump Bin Display**



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## Exhibit 23: BMOP Invitation



## Program Expenses

**Table 1: 2014 Program Administrative Expenses**

Program Component	2013	2014	% Change
TRC Staff and Administration <sup>†</sup>	\$ 417,656	\$ 593,631	42%
Recycling Costs	\$ 317,874	\$ 356,043	12%
Incentive/Promotional Payments	\$ 23,955	\$ 47,712	99%
New Collection Containers	\$ 21,936	\$ 15,108	-31%
Travel	\$ 32,608	\$ 70,120	115%
Legal	\$ 27,696	\$ 40,373	46%
Direct Expense for Marketing & Outreach	\$ 194,761	\$ 289,347	49%
<b>Total (expenses)</b>	<b>\$ 1,036,485</b>	<b>\$ 1,412,333</b>	<b>36%</b>

There was significant variance in many expense categories from 2013 to 2014. Causes for changes include:

- TRC staff and administration increased by 42% in 2014. TRC added a full-time national account manager in January 2014 and a full-time operations coordinator in September 2014, effectively adding three full-time positions since January 2013.
- Incentive/Promotional Payments: Incentive payments in Maine and Vermont continue to decline, but TRC ran a variety of promotional campaigns, including the promotion with R.E. Michel, in 2014 leading to increased expense.
- Travel: The national account manager spends about 60% of his time on travel, primarily visiting collection locations and attending industry events.
- Direct Expense for Marketing/Outreach: Marketing expense increased by nearly 49%. This reflects increases in advertising, printing and the production/distribution costs of the bin display which cost over \$28,000.

# PROGRAM EFFECTIVENESS ASSESSMENT

2015 CT MERCURY THERMOSTAT COLLECTION AND RECYCLING

MARCH 2015

PREPARED BY



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COMMISSIONED BY:





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## BACKGROUND AND PURPOSE

Mercury is an element that has made its way into the environment from both natural and anthropogenic sources, and can take many forms including inorganic and organic states. It has become more widely recognized that mercury released into the environment can easily make its way into aquatic ecosystems and lead to damaging effects in wildlife and humans including deformities in animal development, genetic alterations and harmful health impacts such as immune system and nervous system damage. Predominant sources of mercury include coal-burning power plants and gold mining, but mercury pollution can also be attributed to improper disposal of mercury containing products such as previous-generation thermostats. While significant steps have been taken to reduce the use of mercury in products in recent years, a variety of these older products utilized mercury - products such as thermometers, switches, certain types of light bulbs including fluorescents and older types of thermostats. Many of these products, including thermostats, have relatively small quantities of metallic mercury encapsulated in a glass bulb. If this glass enclosure is compromised and the contents is released into the environment, microbes can convert this mercury into highly toxic organometallic compounds such as methyl mercury which is damaging to both humans and wildlife.

In response to this concern, the EPA and many state environmental departments have taken measures to restrict the quantity of mercury that is released into the environment by emissions, as well as through landfill disposal. A number of states have implemented sales restrictions, disposal bans and product stewardship statutes that focus on products containing mercury. Connecticut has recently joined a growing list of states that require thermostat manufacturers to ensure a disposal alternative for thermostats through implementation of a convenient take-back program. To help serve this purpose, in 1998 major thermostat manufacturers created and funded the Thermostat Recycling Corporation (TRC), and the organization now has take-back participants in 47 states, including 17 state programs that have imposed regulations on the sale and/or disposal of these thermostats.

The goal of this report is to provide for the Connecticut Department of Energy and Environmental Protection an evaluation of the TRC's effectiveness in meeting the goals and requirements of the take-back program it conducts in Connecticut under Connecticut Public Act No. 12-54. Included in this report is a summary of the program's current operations, including its access to return channels and the characteristics of those channels, and how they are marketed and publicized. This report assesses the effectiveness of the TRC program in meeting its obligations to provide a convenient return channel for capturing thermostats that are removed from service.

## METHODOLOGY

RRS acquired annual state reports from TRC which formed the baseline of program information for this report. Additionally, RRS held numerous interviews with TRC leadership, discussing many of the operational aspects related to implementation of a growing number of state level EPR programs. In addition to historical TRC annual reports submitted to state environmental departments, RRS acquired detailed historical program performance data from TRC, including bin and thermostat submission data across the states where TRC has operated. This data was analyzed both for technical accuracy as well as for measuring program success.

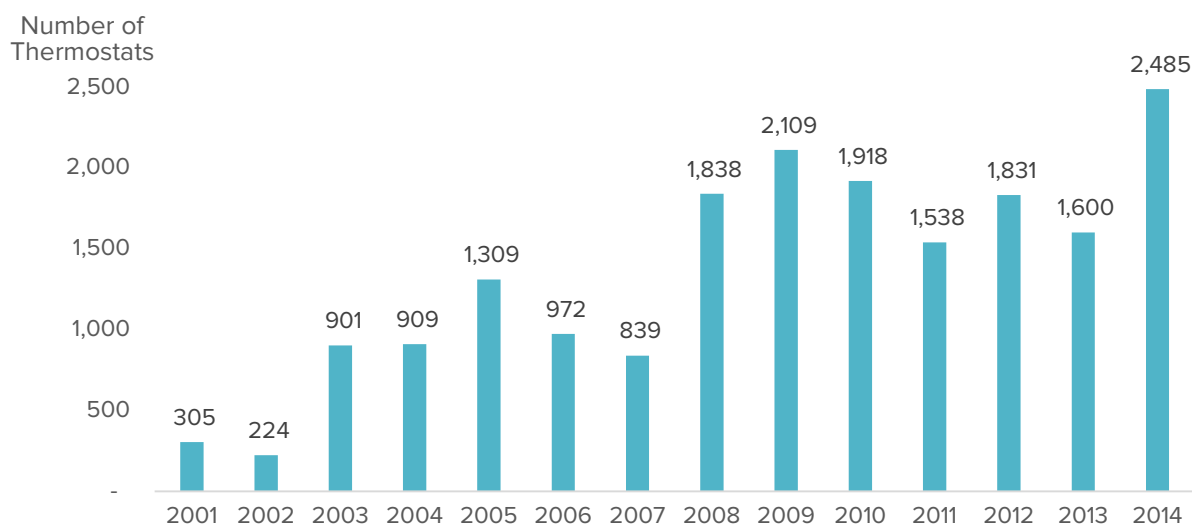
In an effort to better understand the program implementation for wholesaler channel partners, RRS designed and executed a targeted survey for managers. The survey instrument measured the respondent's attitudes towards both pro-environmental behavior and regulatory action, as well as basic demographic data about their particular collection location. A total of 59 registered wholesalers in the state were contacted by RRS. Ten declined to participate, 29 were unable to be reached after repeated attempts, and 20 completed the survey.

## CONNECTICUT PROGRAM PERFORMANCE

A comparative analysis was performed last year as a benchmark of Connecticut's program in 2013 against neighboring states that have passed a similar mercury thermostat recovery legislation. The study found that Connecticut had an overall lower performance record in recovering thermostats relative to peer states on an absolute basis, and also with respect to the number of thermostats collected per-capita. Projections for future performance were trending positively as CT law for mandatory recycling went into effect mid-year in 2014. TRC was expected to increase levels of outreach and communication to channel partners, and wholesalers are expected to actively promote and market the service to their customers.

As anticipated, the rate of thermostat recovery did increase in 2014 with the collection of 2,485 thermostats, an increase of 55% over the 1,600 collected in 2013. Recovery previously peaked in 2009 in terms of pounds of mercury and thermostats collected. Thermostats collected in Connecticut can be seen on a year-by-year basis in Figure 1.

*FIGURE 1. THERMOSTATS COLLECTED IN CONNECTICUT BY YEAR*



As expected to accompany the boost in bin return performance, thermostat recovery performance increased as well, as did mercury collection. After two years of diminishing performance, mercury capture rebounded last year exceeding the amount collected in any previous year, and exceeding last year's rate by 13%.

*TABLE 1. MERCURY RECOVERED THROUGH TRC PROGRAM BY YEAR IN CONNECTICUT*

YEAR	MERCURY CAPTURED, LBS	CHANGE FROM PREVIOUS YEAR
2009	22.4	25%
2010	16.2	-27%
2011	14.2	-13%
2012	15.4	9%
2013	12.9	-17%
2014	24.0	87%

It is useful to look at overall mercury capture trends from thermostats across the U.S. during the same time period to benchmark performance in Connecticut. This can be seen in Table 2.

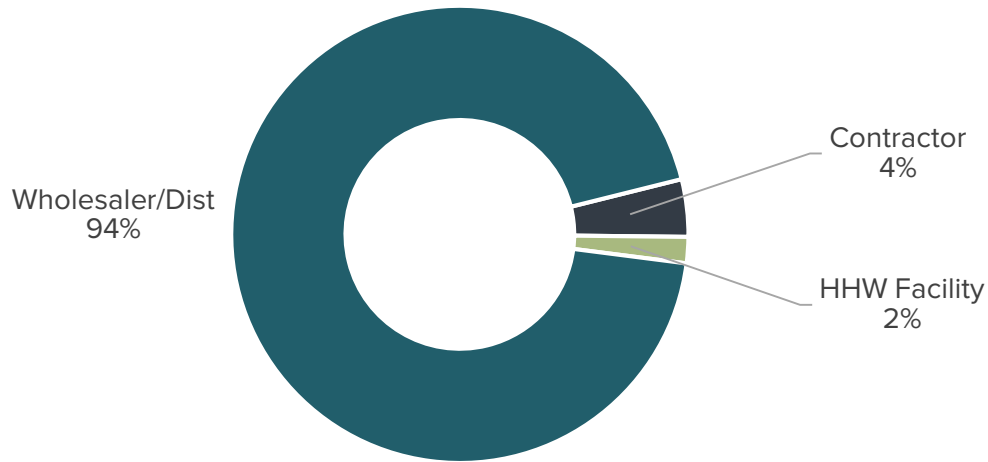
*TABLE 2. MERCURY RECOVERED THROUGH TRC PROGRAMS BY YEAR IN THE US*

YEAR	MERCURY CAPTURED, LBS	CHANGE FROM PREVIOUS YEAR
2009	1,491	16%
2010	1,879	26%
2011	1,947	4%
2012	1,843	-5%
2013	1,755	-5%
2014	1,981	13%

## BIN RETURNS AND CHANNEL PERFORMANCE

The Thermostat Recycling Corporation provides bins to wholesalers, waste and household hazardous waste handlers such as recovery authorities and transfer stations and heating/cooling/plumbing contractors. In 2014, 2,338 (94%) of collected thermostats in CT were returned through wholesaler channels with the remaining 147 thermostats collected through contractors and HHW facilities. Figure 2 below shows the breakdown of return performance by type of channel partner.

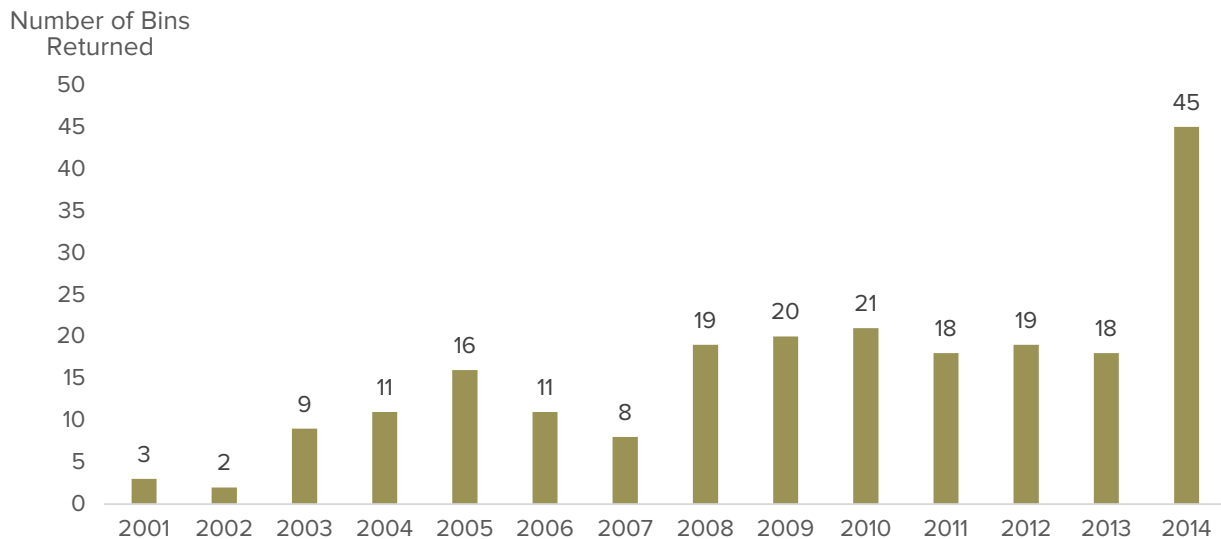
FIGURE 2. 2014 THERMOSTAT COLLECTION BY TRC CHANNEL PARTNER



In 2014, eighteen channel players returned bins to the TRC and the 2,485 thermostats received were distributed across 45 bins. This rate of bin return represents a dramatic increase in the number of shipments received by TRC in all previous years including a 250% increase over the 18 bins received in 2013. Shipments peaked in 2010 at 21 bins.

Figure 3 shows the number of bins returned since 2001 in Connecticut.

FIGURE 3. BINS RETURNED BY YEAR IN CONNECTICUT



As illustrated in Figure 4 below, bin returns increased nationally in 2014 by 22%, with a total of 3,659 bins returned through TRC's collection programs. Connecticut's returns account for approximately 1.2% of national bin returns in 2014.



FIGURE 4. BINS RETURNED BY YEAR, NATIONALLY

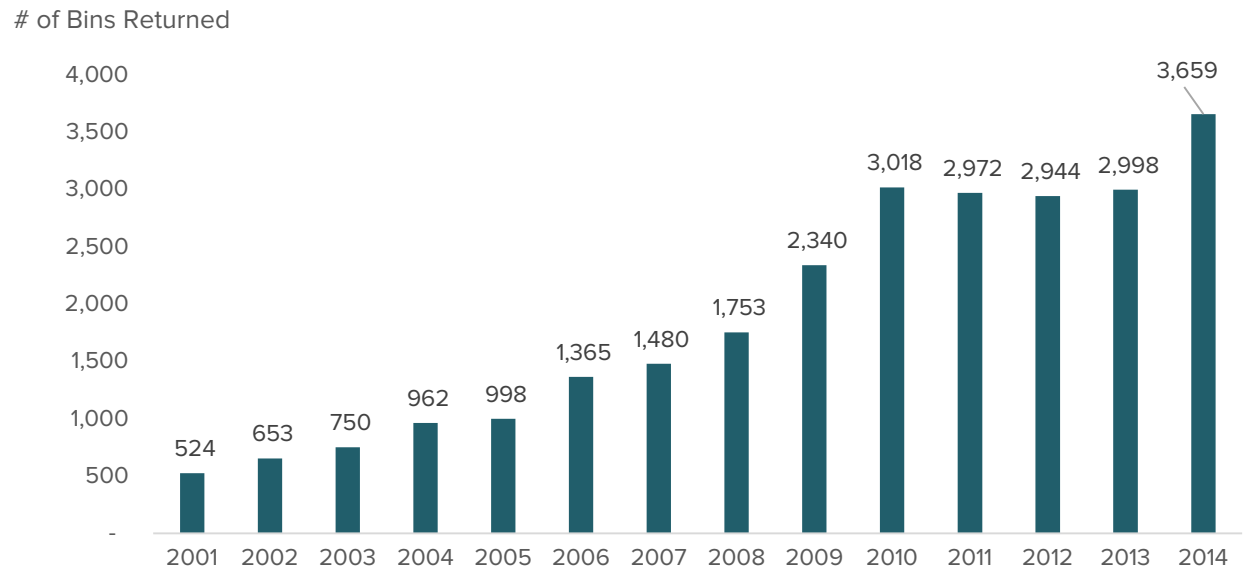
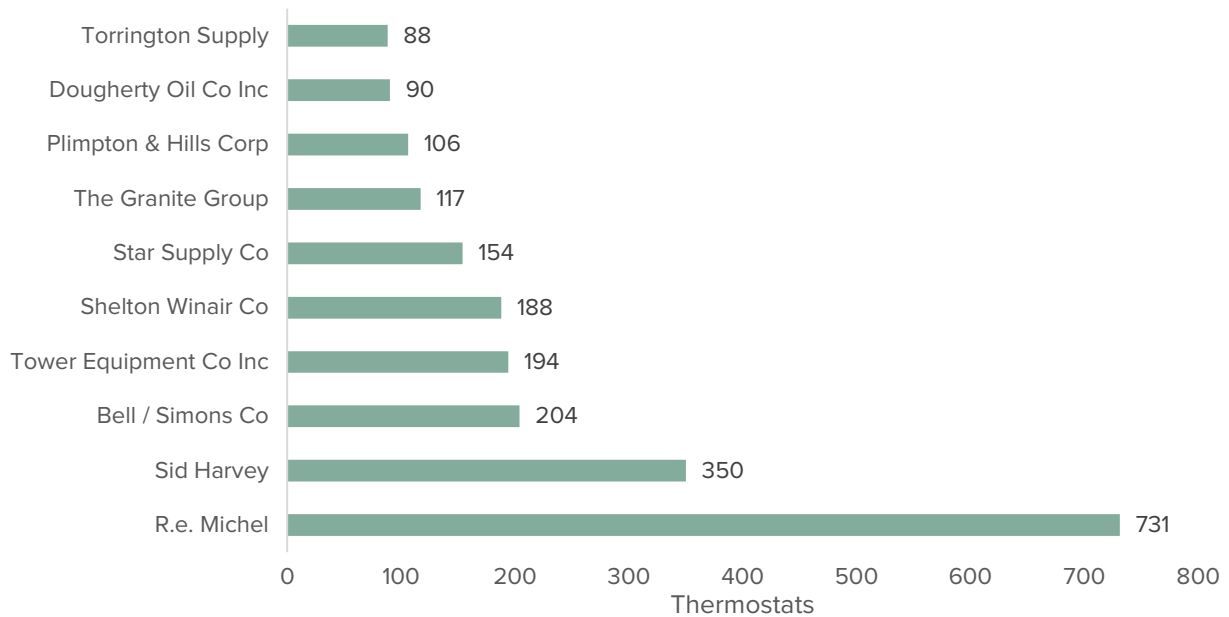


Table 3 below shows the number of bins returned by channel partner. Multiple bins returned by a single partner may have originated from multiple stores throughout Connecticut. Figure 5 shows how many thermostats were delivered through the top collection partners.

TABLE 3. BIN RETURN PERFORMANCE BY CHANNEL PARTNER CONNECTICUT

BIN COLLECTOR	BINS RETURNED
R.e. Michel	9
Sid Harvey	6
The Granite Group	6
Tower Equipment Co Inc	3
Johnstone Supply	3
Bell / Simons Co	3
Carrier Enterprises	2
Plimpton & Hills Corp	2
Shelton Winair Co	2
Bell Pump Company	1
Town Of Manchester Transfer Station	1
Litco Supply	1
Housatonic Resources Recovery Authority	1
United Refrigeration	1
Quality Mechanical Service	1
Star Supply Co	1
Torrington Supply	1
Dougherty Oil Co Inc	1
<b>Grand Total</b>	<b>45</b>

FIGURE 5. THERMOSTAT COLLECTION PERFORMANCE BY CHANNEL PARTNER



## BIN RETURN EFFICIENCY

Table 4 tracks the annual trends in thermostat and bin returns in Connecticut, showing the annual change in thermostat performance as well. Both 2003 and 2008 represented dramatic increases in both bin and thermostat return performance over previous years and last year's 55% increase delivered 885 more thermostats than 2013.

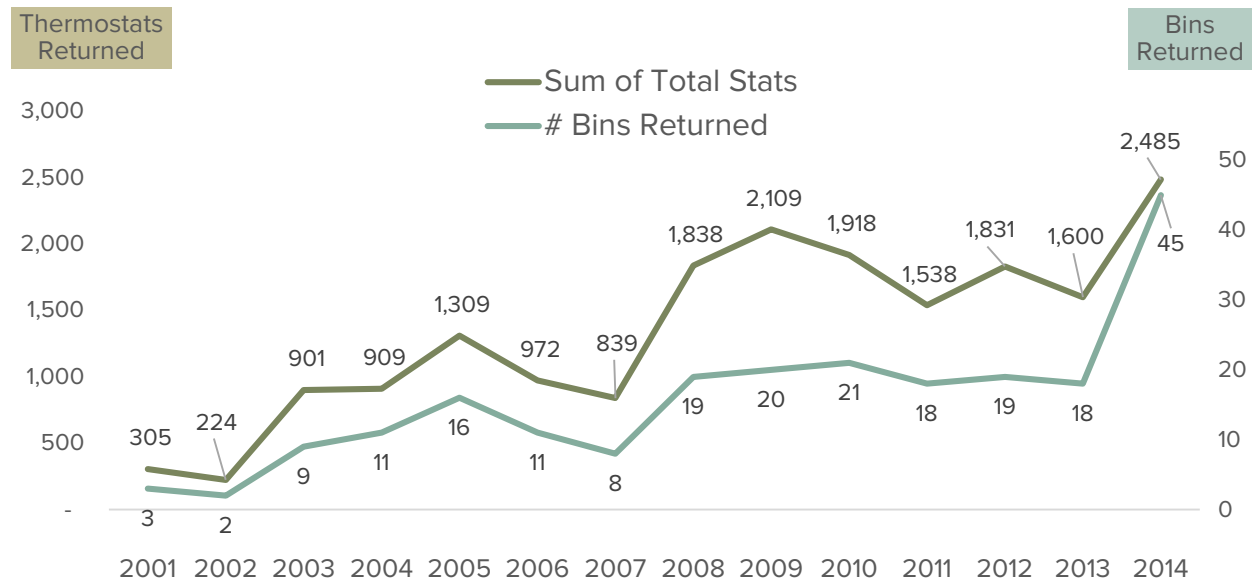
TABLE 4. ANNUAL BIN AND THERMOSTAT COLLECTION, CONNECTICUT

YEAR	# BINS COLLECTED	THERMOSTATS COLLECTED	CHANGE IN THERMOSTAT COLLECTION FROM PREVIOUS YEAR
2001	3	305	
2002	2	224	-27%
2003	9	901	302%
2004	11	909	1%
2005	16	1,309	44%
2006	11	972	-26%
2007	8	839	-14%
2008	19	1,838	119%
2009	20	2,109	15%
2010	21	1,918	-9%
2011	18	1,538*	-20%
2012	19	1,831	19%
2013	18	1,600	-13%
2014	45	2,485	55%

\*Updated from last year's report

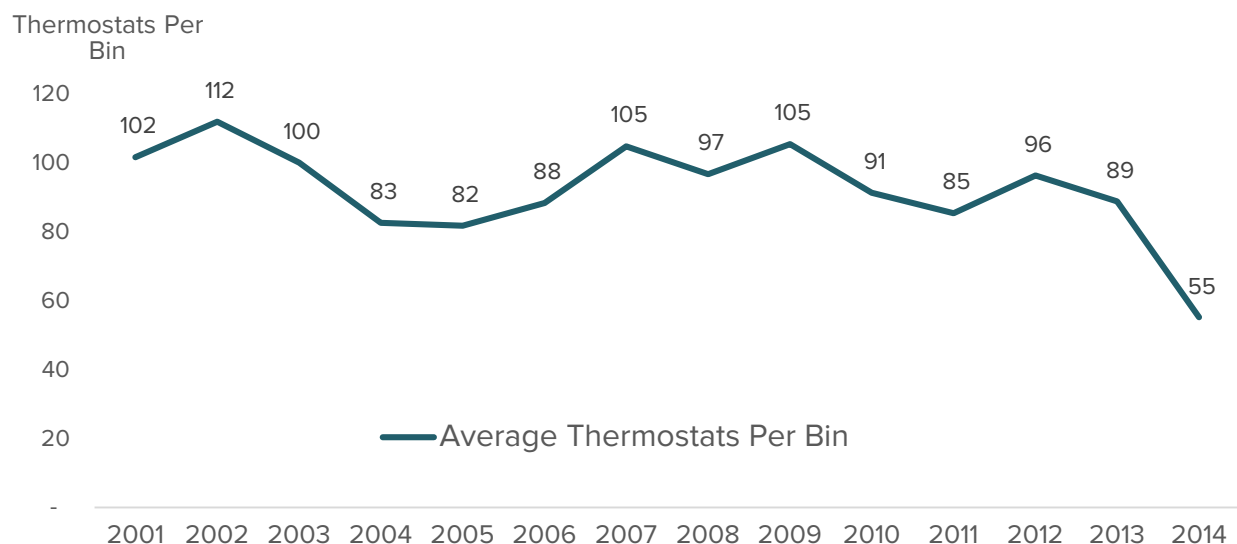
An important development can be observed by looking at bin returns simultaneously with thermostat returns. In previous years such as 2005 and 2008, the number of thermostats collected correlates somewhat linearly with the number of bins received. However, the rate of increase for thermostats exceeded the rate of increase in bin returns by three times. Thermostat collections increased 55% over 2013, but bin collections increased 150% during the same period. Figure 6 shows bin returns and thermostat collections concomitantly by year so relative rates of increase and decrease can be observed.

FIGURE 6. COMPARISON OF THERMOSTATS RETURNED VS BINS RECEIVED



In order to illustrate the relationship more clearly between increased bin returns and increased thermostat returns, the rate of average thermostats per bin is graphed in Figure 7 below. The Thermostat Recycling Corporation was able to collect a record number of bins in Connecticut in 2014 and a record number of thermostats, but the number of thermostats per bin dramatically declined by 38% from the previous year and by 48 percent from years 2007 and 2009.

FIGURE 7. AVERAGE THERMOSTATS PER BIN IN CONNECTICUT ANNUALLY



## TRC MARKETING AND EDUCATION

Under Connecticut Public Act No. 12-54, the Thermostat Recycling Corporation is charged with the responsibility of promoting the availability of thermostat collection containers to wholesalers, retailers, qualified contractors and municipalities, as well as educating contractors and homeowners the importance and available methods of properly managing out-of-service mercury thermostats. Requirements include provision of signs to participating collection sites and supply of written materials for reproduction by participating wholesalers and retailers. These requirements reflect the general approach to manufacturer-led programs in other states.

TRC maintains a website that provides promotional materials including a toolkit with high-resolution PDF versions of posters, decals, stickers and signs that may be downloaded and printed. Alternatively, all of these items are available in hard copy directly from the TRC. Beyond these advertising media items, TRC also produces fact sheets, talking points and press releases for distribution within the industry. The website carries state-specific program information and enables searching for regional disposal alternatives. TRC's website has state program requirements for the public, including homeowners, contractors, wholesalers and municipalities who are seeking information about nearby collection areas, requirements and information on how to become a collection point. The website enables users to look up disposal solutions by zip code, simplifying the process for contractors and homeowners.

In 2014, TRC periodically sent a total of 195 postcards to participating locations that had not returned a bin in the previous 12 months. TRC also sent letters to all HVAC wholesaler locations reminding them of their legal responsibility to collect thermostats and that they were prohibited from selling new thermostats unless they acted as a collection site. Additionally, TRC sent a total of 220 postcards to HVAC contractors with more than 10 employees, reminding them of their legal obligation to recycle thermostats. TRC placed advertisements in three HVAC trade publications, as well as through numerous industry online newsletters, e-blasts, news sites, and forums, and attended 12 trade shows.

## SITE VISITS

TRC makes site visits and phone calls to Connecticut wholesalers for several reasons, including regularly scheduled calls, check-ins designed to connect with stores that haven't returned bins for an extended period of time and maintain a presence among this group of stakeholders. In 2014, thirteen calls were documented, mostly taking place in the latter half of the year. Phone calls were successful in identifying the reasons why some bins haven't been returned including misplaced bins, absence of mailing labels, changes in company structure or management, etc. and TRC developed action items that emerged from these calls.

Wholesaler phone calls were accompanied by a much more substantial effort to make in-person store visits in 2014. TRC visited 53 store locations in 28 different cities within Connecticut over the course of the year to discuss the program, provide educational materials and support, and to answer any concerns from the channel partners. Of these 53 visits, 20 were very well documented with notes detailing the point of contact, the nature of any distributed materials, opportunities for further engagement, and general notes about the program implementation at each site. The remainder of the visits were documented sparingly, providing only the location name and location. RRS commends the level of detail provided in the well documented notes, and recommends the site visit log be seen as an opportunity for further improvement of the Connecticut program.

## CHANNEL PARTNER STUDY

RRS reached out to 59 wholesale branch locations to measure motivations for program participation and underlying attitudes toward environmental regulation. The questions were designed to determine what levers (such as site visits or increased education) might be most effectively used to support TRC's program. Many employees of wholesale branch locations began their careers as technicians and are well positioned to provide a valuable perspective on thermostat recovery.

### RESPONDENT DEMOGRAPHICS

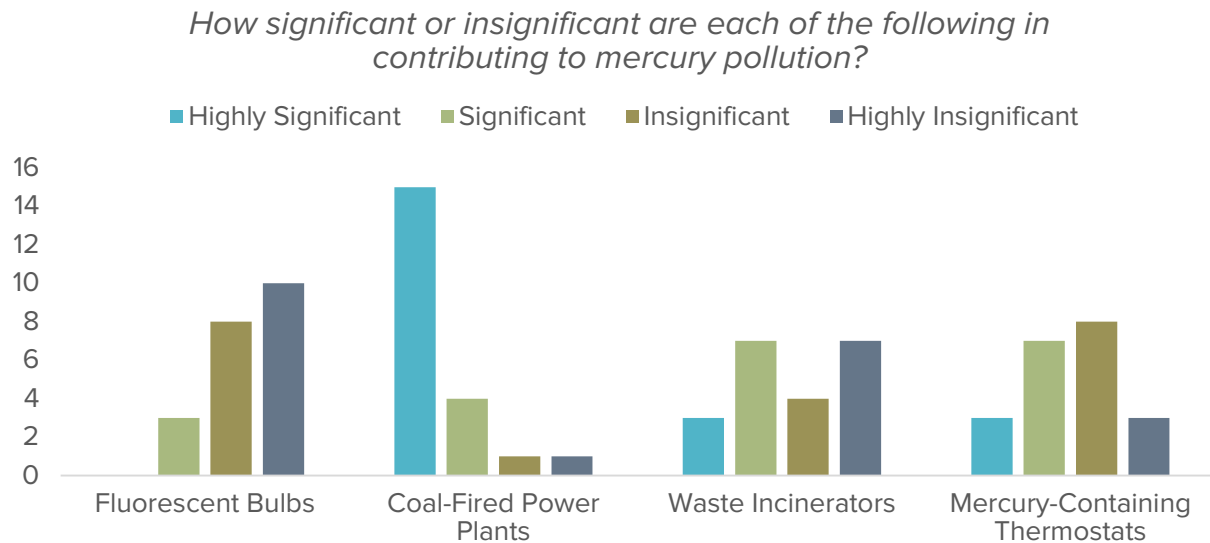
Most respondents were mid-career, with 80% of respondents between the ages of 26 and 54 years old; nearly half of those surveyed were aged 35 to 44 years old. Nearly all respondents worked in smaller locations, with 95% representing stores with 2 to 10 employees.

### ENVIRONMENTAL AND REGULATORY OPINIONS

A sequence of questions were asked to benchmark basic attitudes toward environmental and regulatory issues. 75% of respondents recycle 'frequently' at home and 70% have access to municipally contracted curbside collection. 90% identified as being concerned about the environment, although only 14% believe that the HVAC industry needs additional regulation. 43% believe that the industry has the correct amount of regulation and 43% believe that the level of regulation is too high. Those in favor of increased regulation specified that additional enforcement of existing regulation was needed, while those in favor of decreased regulation cited excess complexity as a reason. When asked the impact of venting refrigerant to the atmosphere, only 60% believe it constitutes a 'real risk to the environment'. When asked a similar question about the impact of throwing mercury thermostats into the trash, 76% responded that it would have "some" or "little" impact, with 10% of responses believing the impact to be "none" and 14% claiming "a lot" of impact. Diving deeper into the sources of mercury pollution, most respondents correctly identified coal-fired power plants to be the most significant contributor, most respondents cited compact fluorescent lightbulbs to be the least significant contributor, and both thermostats and waste incinerators were believed to contribute moderately. Figure 8 illustrates the way respondents view the most significant contributors to mercury pollution.



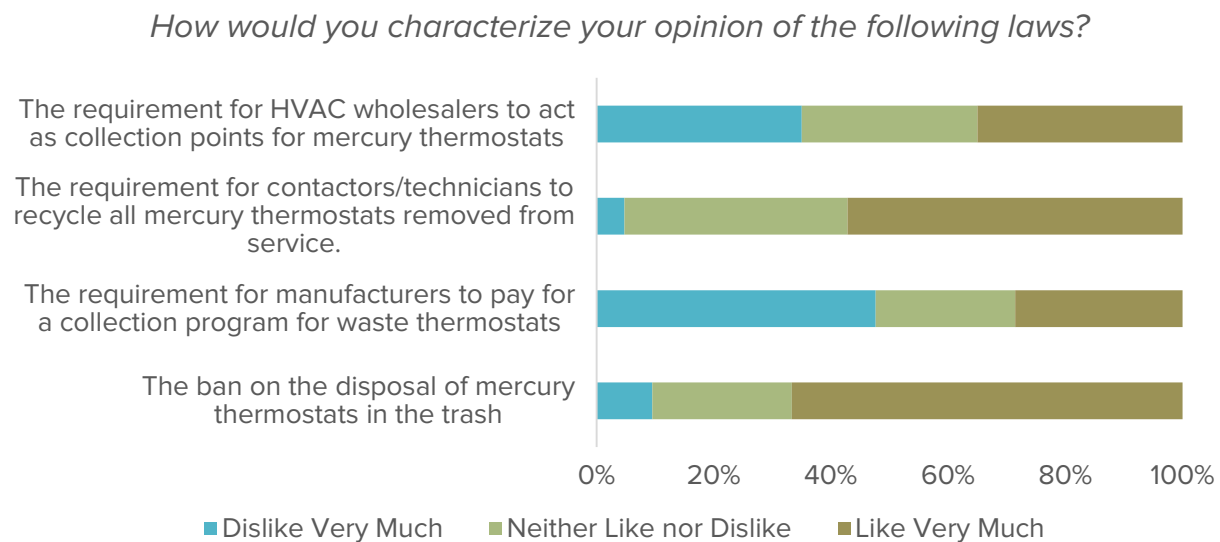
FIGURE 8. VIEWS ON MERCURY POLLUTION CONTRIBUTORS



## THERMOSTAT RECYCLING

Nearly all managers interviewed (86%) were aware of the Connecticut law banning the disposal of mercury-containing thermostats. Opinions varied, however, regarding structural components of the law. Most respondents showed support for the thermostat landfill ban and the requirement to recycle the thermostats, but most were skeptical of the need for the manufacturers to fund the program and of the requirement that wholesalers act as collection points for recycled thermostats. The range of opinions is shown below in Figure 9.

FIGURE 9. WHOLESALE MANAGER VIEWS ON THE CONNECTICUT LAW



When asked specifically about TRC and the collection program, 71% of respondents understood who the TRC is or could at least identify them as the program operators for wholesale channels. However, 19% of respondents were unsure of the nature of the organization and believed it to be a part of CT DEEP, and 10% did not know anything about TRC. 75% of wholesale locations surveyed kept the collection bin behind the counter instead of in front of it. When asked to rank the convenience of returning thermostats on a scale of one to ten, the average response was two.

## IMPACT AND ROLE OF CT DEEP

When asked specifically about site visits from CT DEEP, only 10% responded that a representative from CT DEEP had visited the store inquiring about the program in 2014. When asked about the impact of the visit, the results were decidedly mixed with half believing the visit to be very helpful and half believing the visit was not at all helpful.

## PROGRAM IMPROVEMENT

When asked about the collection program's chances of collecting more than 75% of existing thermostats, 15% thought it very unlikely, 25% thought it unlikely, 35% were undecided and 25% thought it likely. No respondents believed it to be highly likely. Given a list of potential catalysts for increasing program performance, the highest ranked scenarios were additional education and signage resources and the possibility of a contractor being fined for non-compliance. An average of 89% of contractors returning thermostats are regular program participants. When asked whether having a representative of CT DEEP visit once or twice per year would improve program performance, 62% responded that it was unlikely or highly unlikely, compared to 19% who believed it was likely or highly likely. Only 10% believed the risk of a fine to the wholesaler would encourage better results. When asked about barriers to technician participation, the lack of visibility of the return bin was the most frequently cited answer, followed by insignificant signage and the lack of concern on the part of technicians, respectively.

# CONCLUSIONS AND RECOMMENDATIONS

## RESULTS OF YEAR ONE OF MANDATORY PROGRAM

In 2014, the TRC engaged RRS to conduct an independent study of HVAC wholesalers throughout Connecticut and the greater New England region to gauge participation and support of the mandatory collection program. The findings indicated that nearly all wholesalers that were interviewed by phone or in-store visit participated in the program, but there were highly variable success rates for collection. Participation is nearly unanimous among wholesalers with bins maintained in each store. Despite widespread participation by these channel partners, thermostat collection is limited by the number of units returned by contractors and technicians.

Collection and return by contractors seems to be the limiting factor for capture rates and evidence suggests low performance is negatively impacting the recycling rate for these devices. RRS gathered wholesale manager opinions on this topic through a wholesale channel partner study; reinforcing the learnings from 2014 that the contractors have limited motivation to comply with the disposal regulation. Last year's wholesaler interviews indicated the reasons for this may include skepticism about the actual dangers of mercury to the environment or human health, a general lack of environmental concern, or a perception of thermostat collection and return being onerous.

In addition to rebate value, we recommend that more research be conducted on various structures of incentives targeted at contractors and technicians. Our research indicates that other strategies for incentives would likely be far less costly to administer and more effective for the purpose of

incentivizing returns. Since incentive payments are made months, or even years, after a contractor returns the devices, the current rebate system likely has limited impact as an incentive to recycle.

TRC has explored other motivational strategies that show potential to be more cost-effective; these include raffles or drawings for scratch-off tickets tied to more significant prizes conducted for distributors and tradespeople, or coupon marketing partnerships with a retailer that has an interest in co-branding to this demographic. Some wholesalers suggested an effective approach might include distributing coupons for food or drinks at popular donut shops in New England.

## FINAL THOUGHTS

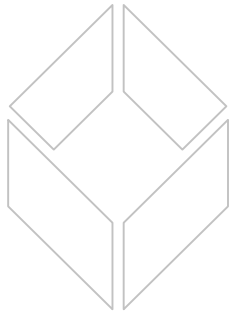
In a growing number of states, it is increasingly common that manufacturers manage and administrate a mandatory thermostat take-back program, assuming full responsibility for both operational and fiscal aspects of the program. It should be recognized that this level of manufacturer obligation is unique to the manufacturers of thermostats in that performance responsibility is not shared across the product value chain with other stakeholders including wholesalers, retailers and consumers. For instance, paint stewardship programs similar to the program that was established in 2011 in Connecticut, typically empower the manufacturer to incorporate a fee to the consumer which is directed towards proper end-of-life disposal. Manufacturer-implemented programs for car batteries and tires also benefit from support of disposal fees paid by consumers.

Material recovery approaches must be embraced by all stakeholders to be truly effective. The TRC has successfully developed a collection and return program that is simple and practical for intended participants. We have found that wholesalers are very willing to participate, appreciate the simplicity of the program and are ready to actively increase the presence of educational materials displayed in stores. Despite willingness to participate in the collection, many still feel they just don't receive returns from contractors.

With manufacturer-based thermostat take-back programs continuing to increase, increasingly important questions persist around the actual number of mercury thermostats still in service and whether manufacturer take-back programs are effective at reducing the amount of mercury that is disposed. The EPA has estimated that approximately 2-3 million mercury-containing thermostats come out of service each year. At an average of 3g of mercury per device this implies that between six and nine tons of mercury is being disposed of on a yearly basis. These numbers are commonly cited from an EPA paper written in 2002, referencing thermostat disposal trends from the early 1990s. The numbers and assumptions in this report are certainly dated and many contractors are now replacing many electronic thermostats. It is likely that many of these thermostats have been replaced now, and an unknown fraction of those 2-3 million thermostats actually contain mercury. While the numbers are subject to a high level of uncertainty, there is reason to believe that many mercury thermostats are still present in the U.S. built environment inventory, but it must be recognized that many of these thermostats may have very long useful lives and may remain in service for decades to come. For this reason, RRS continues to recommend that states invest the appropriate resources to study and build updated models to assess the inventory of mercury containing thermostats.

We have found that opportunities exist for TRC to expand its state program impact and to broaden and reinforce its message. To maximize success, the TRC, state governments, wholesalers and contractors must all play a strong role in delivering the messaging and motivation that will continue to drive the return of these devices.

# ABOUT RRS



## Managing change in a resource-constrained world

RRS is a consultancy with a vision. We see a world where resources are managed to maximize economic and social benefit while minimizing environmental impact. A world where abundance keeps pace with societal needs.

We have assembled a unique team of strategists, engineers, economists and communications specialists with core strengths in materials and recovery, coupled with expertise in life cycle management and applied sustainable design. These experts operate confidently across the supply chain, identifying the most leveraged opportunities to affect change, and developing pathways to long-term value.

RRS has been working toward this vision since 1986. Our clients are leaders in materials management, and in partnership we have achieved outstanding results. We remain nimble and responsive, providing informed, innovative, actionable solutions to the sustainability challenges of our time.

# TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut Calendar Year 2014 Activities

## Appendix B: Memo to HVAC Wholesale Distributors



1765 Duke Street | Alexandria, VA 22314 | [thermostat-recycle.org](http://thermostat-recycle.org)

April 18, 2014

AAA Distributors  
105 Bayview Blvd  
Stratford, CT 06615-7919

Dear Branch Manager:

Last year, Connecticut passed legislation that requires all HVAC wholesale distributors in the state to act as a collection point for waste mercury thermostats. After July 1, 2014, wholesale distributors that do not act as a collection point will be prohibited from selling any thermostat. With the implementation deadline looming, I thought it prudent to remind you if you have not yet taken action to comply.

Thermostat Recycling Corporation (TRC) is a non-profit stewardship organization funded by 31 manufacturers who historically distributed mercury-switch thermostats. TRC manages the Connecticut program on the manufacturers' behalf. Under Connecticut's law, mercury thermostat manufacturers must offer a collection program to both distributors and contractors.

TRC's program is a simple, reverse distribution system. Collection locations are provided with a plastic bin that comes with a liner, instructions and a pre-paid shipping label to be used to return the bin to TRC's processing facility. All that is required from distributors is to collect waste mercury thermostats from their customers, ship the bin at least once per year and to promote the availability of the program. Upon receiving the bin, TRC empties it and sends it back refilled with the materials to repeat the process.

This service enables your business to comply with the law in an easy, cost-effective manner. TRC charges a nominal one-time fee of \$25 (per container), but beyond that manufacturers assume all costs to transport and process the waste thermostats.

Additionally, TRC has both printed materials and templates of materials available at no additional cost. We find these materials to be a simple and effective way of promoting the collection program to your customers. Finally, the new law mandates that contractors recycle mercury thermostats and contractors will soon seek collection locations. We encourage the use of our materials to both remind old customers and invite new ones to recycle at your location.

Please feel free to contact me with any questions about the law or how TRC can assist you in promoting the collection of waste mercury thermostats. I may be reached at 571-447-4313 or at [Neisha.Johnson@thermostat-recycle.org](mailto:Neisha.Johnson@thermostat-recycle.org).

Regards,

Neisha Johnson  
Operations Manager

# TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut Calendar Year 2014 Activities

## Appendix C: Letter to NEFI Attendees



1765 Duke Street | Alexandria, VA 22314 | [thermostat-recycle.org](http://thermostat-recycle.org)

June 2, 2014

RE: Compliance with Connecticut's Mercury Thermostat Law Which Goes Into Effect July 1

Dear James Boisvert,

I received your contact information from the NEFI member directory and am writing this letter to inform you of the new Connecticut mercury thermostat law going into effect July 1, 2014. The law requires HVAC contractors and technicians to recycle all mercury thermostats removed from service. Additionally, if the contracting business has seven or more technicians it is required to act as a collection point for waste mercury thermostats.

Thermostat Recycling Corporation (TRC) offers a program to help HVAC contractors comply with the new mercury thermostat law. As a non-profit stewardship organization, TRC provides mercury thermostat recycling containers to its program participants and assumes all costs to transport and properly dispose of mercury switch thermostats recovered from service. As such, we strongly encourage you to directly participate in TRC's program.

Call TRC toll-free at **888-266-0550** to directly enroll in TRC's program. The cost is a one-time \$25 fee per recycling container. Once you sign up, TRC will send you a recycling container(s) that hold approximately 100 mercury thermostats and contain all necessary materials to comply with universal waste and DOT transportation regulations. Visit [www.thermostat-recycle.org](http://www.thermostat-recycle.org) to learn more about the benefits of the program.

**You are eligible to receive a free recycling container if you will be attending the upcoming Visions Conference June 10<sup>th</sup> – 11<sup>th</sup>.** Simply fill out the enclosed form and bring it to me at table #27 at the conference to redeem.

If you have any questions at all, please feel free to reach out to me. I look forward to hearing from you.

Sincerely,



Ryan L Kiscaden  
Senior Account Executive  
Mobile - 571-302-0877  
[ryan.kiscaden@thermostat-recycle.org](mailto:ryan.kiscaden@thermostat-recycle.org)



# TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut Calendar Year 2014 Activities

## Appendix D: Collection Location Site Visits

Account Name	Billing City
The Granite Group-Norwich	Norwich
Thames Valley Winnelson	Groton
The Granite Group-Groton	Groton
The Granite Group-New London	New London
Essex Winnelson Company	Essex
The Bell Pump Company-New Haven	New Haven
Wallingford Winnelson Co.	Wallingford
The Granite Group-Old Saybrook	Old Saybrook
The Granite Group-North Haven	North Haven
Star Supply Company	New Haven
Sid Harvey Industries-New Haven	New Haven
Sid Harvey Industries-New London	Groton
Portland Winair Co.	Middletown
R.E. Michel Company, Inc-East Hartford 2	East Hartford
R.E. Michel Company, Inc-Hartford	Hartford
Bell Simons Companies-Hartford	Hartford
Sid Harvey Industries-Hartford	Hartford
Carrier Corporation-Hartford	Hartford
Torrington Supply-Waterbury	Waterbury
Sid Harvey Industries-Waterbury	Waterbury
Stamford Winnelson Co.	Stamford
Lewin P & H Supply	Fairfield
B Lipnick Supply Co Inc	Bridgeport
N & S Supply Inc.	Danbury
Torrington Supply Co Inc	Danbury
Klaff's	Danbury
Quality Plumbing Supply	New Haven
Knightsbridge Co.	Branford
Trane Parts Ctr.	New London
Viking Supply Co	Norwich
B & D Supply Inc.	Danielson
Willimantic Winnelson Co.	Willimantic
Gastech Corp	Middletown
Carrier Commercial Svc	Middletown
Modern Plumbing Supply	Berlin
New Britain Supply	New Britain
Commercial Heating Supply	East Hartford
Hartford Winnelson Co.	Hartford
Supply New England	Hartford
Trane Parts Ctr.	Hartford
Manchester Winnelson Co.	Manchester
R & R Plumbing & Supply Co.	Manchester

## **TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut Calendar Year 2014 Activities**

Clover Corp	East Hartford
Windsor Winair Co.	South Windsor
Independent Pipe & Supply Corp	Bloomfield
Litco Supply	East Windsor
Speciality Plumbing-Htg Supply Co	Enfield
Central Aire Supply Inc.	Hartford
Branford Winnelson Co.	Branford
Trane	Norwalk
Litco Supply Inc.	Torrington
MCN Distributors Inc.	North Haven
Carrier Northeast	New Haven

# TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut Calendar Year 2014 Activities

## Appendix E: IE3 Post-Show Letter



1765 Duke Street | Alexandria, VA 22314 | [thermostat-recycle.org](http://thermostat-recycle.org)

April 15, 2014



RE: IE3 ACCA Show in Nashville, TN March 17<sup>th</sup> – 20<sup>th</sup>

Hello Scott Studer,

I am writing this letter to personally reach out to you regarding the importance of recycling waste mercury thermostats. I received your information from the recent ACCA trade show in Nashville, TN.

Thermostat Recycling Corporation is an industry funded non-profit that provides free mercury thermostat recycling at over 2,000 HVAC supply houses nationwide.

Each mercury thermostat your technicians remove from service contains at least 1,000 times more mercury than a compact fluorescent light bulb and many states now regulate the disposal of mercury thermostats. HVAC contractors are the first, and sometimes last, point of contact before a mercury bearing thermostat is disposed of. As such, we strongly encourage you to spend a couple of minutes on website ([www.thermostat-recycle.org](http://www.thermostat-recycle.org)) and familiarize yourself with the program.

To further incent your participation, for a limited time, TRC is offering free participation to ACCA members with more than seven technicians. To receive a free TRC recycling container and pre-paid shipping of your waste mercury thermostats contact TRC at 1-888-266-0550 and reference "ACCA 2014 Offer"

I look forward to hearing from you. If you have any questions at all, please feel free to reach out to me.

Sincerely,

Ryan L Kiscaden  
Senior Account Executive  
Mobile - 571-302-0877  
[ryan.kiscaden@thermostat-recycle.org](mailto:ryan.kiscaden@thermostat-recycle.org)

**Attachment:** Tri-fold brochure

**TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut  
Calendar Year 2014 Activities**

**APPENDIX F: Thermostats Returned by Collection Location**

Collection Location Name	Business Type	Street 1	City	State	Zip	# Bins at Location	Date(s) of Bin(s) Receipt	Total Stats	Total Switches	Total Mercury
Torrington Supply	Wholesalers	100 N. Elm Street	Waterbury	CT	06723	1		0	0	0.00
Connecticut Refining Co.	Contractor	105 Water Street	West Haven	CT	06516	1		0	0	0.00
Wallingford Winnelson Co.	Wholesalers	1068 N. Farms Road Bldg. 1	Wallingford	CT	06492	1		0	0	0.00
Star Supply Company	Wholesalers	118 Gando Drive	New Haven	CT	06513	2	04/16/2014	154	198	1.23
Central Airesupply Inc.	Wholesalers	118 Ledyard Street	Hartford	CT	06114	1		0	0	0.00
Main Enterprises	Contractor	1180 Stratford Rd.	Stratford	CT	06615	2		0	0	0.00
Essex Winair Co.	Wholesalers	11C Bokum Road	Essex	CT	06426	1		0	0	0.00
Mitchell Fuel Co. Inc.	Wholesalers	1209 Sullivan Ave.	South Windsor	CT	06074	1		0	0	0.00
Environmental Control, Inc.	Contractor	1265 Woodend Road	Stratford	CT	06615	1		0	0	0.00
Nutmeg Mechanical Service Inc.	Contractor	130-3 Utopia Road	Manchester	CT	06042	1		0	0	0.00
Tower Equipment Co Inc	Wholesalers	1320 West Broad St	Stratford	CT	06615	8	04/15/2014, 04/16/2014, 04/16/2014	194	255	1.58
Plimpton & Hills Corp.	Wholesalers	1415 East Main Street	Torrington	CT	06790	1	07/21/2014	76	114	0.71
Plimpton & Hills Corp.	Wholesalers	146 Kings Highway East	Fairfield	CT	06825	1		0	0	0.00
Plimpton & Hills Corp.	Wholesalers	148 South Colony Drive	Wallingford	CT	06492	1		0	0	0.00
Town Of Granby	HHW Facility	15 N. Granby Road	Granby	CT	06035	2		0	0	0.00
N&S Supply	Wholesalers	15 Starr Road	Danbury	CT	06810	1		0	0	0.00
F.W. Webb	Wholesalers	150 Locust St	Hartford	CT	06114	1		0	0	0.00
Modern Plumbing Supply	Wholesalers	152 Berlin Turnpike	Berlin	CT	06037	1		0	0	0.00
Santa Fuel	Contractor	154 Admiral St.	Bridgeport	CT	06605	2		0	0	0.00
Johnstone Supply	Wholesalers	156 Magee	Stamford	CT	06902	1	11/08/2014	47	104	0.64

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		Avenue								
Manchester Winnelson	Wholesalers	160 Hartford Road	Manchester	CT	06040	1		0	0	0.00
Housatonic Resources Recovery Authority	HHW Facility	162 Whisconier Road	Brookfield	CT	06804	2	06/27/2014	37	126	0.78
M & O Corporation	Contractor	164 Alex Street	Bridgeport	CT	06607	1		0	0	0.00
Wesson Energy	Contractor	165 Railroad Hill Street	Waterbury	CT	06790	2		0	0	0.00
Sid Harvey Industries	Wholesalers	17 Eagle Rd.	Danbury	CT	06810	1	10/21/2014	36	208	1.29
United Refrigeration #G6	Wholesalers	17 Viaduct Road	Stamford	CT	06907	1		0	0	0.00
R&B Refrigeration Inc.	Contractor	18 Graves Avenue	Guilford	CT	06437	1		0	0	0.00
Carrier Enterprise	Wholesalers	185 Wallall Street	New Haven	CT	06511	1	08/21/2014	1	4	0.02
Essex Winnelson Company	Wholesalers	186 Westbrook Road	Essex	CT	06426	1		0	0	0.00
Plimpton & Hills Corp.	Wholesalers	189 Chestnut Street	New Britain	CT	06050	1		0	0	0.00
United Refrigeration	Wholesalers	190 Wallace Street	New Haven	CT	06511	1		0	0	0.00
Abco Hvacr Supply-Stamford	Wholesalers	198 Lawn Ave.	Stamford	CT	06902	1		0	0	0.00
Plimpton & Hills Corp	Wholesalers	2 Brainard Road	Hartford	CT	06114	1	09/04/2014	30	76	0.47
Plimpton & Hills Corp.	Wholesalers	2 Eastview Lane	Farmington	CT	06030	1		0	0	0.00
Carrier Enterprise	Wholesalers	2 Northrop Ind. Park Road	Wallingford	CT	06492	1		0	0	0.00
The Bell Pump Company	Wholesalers	20 Victory Street	Stamford	CT	06902	1		0	0	0.00
F.W. Webb	Wholesalers	200 Locust St.	Hartford	CT	06114	1		0	0	0.00
B. Lipnick Supply Co., Inc.	Wholesalers	2016 Main Street	Bridgeport	CT	06604	1		0	0	0.00
Sid Harvey Industries	Wholesalers	206 Murphy Rd.	Hartford	CT	06114	1		0	0	0.00
The Bell Pump Company	Wholesalers	209 Forbes Avenue	New Haven	CT	06512	1		0	0	0.00
Johnstone Supply	Wholesalers	21 Shady Street	Milford	CT	06460	1	11/07/2014	22	26	0.16

**TRC Annual Report on Mercury-added Thermostat Collection and Recycling in Connecticut  
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Plimpton & Hills Corp.	Wholesalers	210 East Canaan Road (Rt..44)	East Canaan	CT	06024	1		0	0	0.00
New Britain Supply	Wholesalers	211 John Downey Dr.	New Britain	CT	06057	1		0	0	0.00
Petro	Contractor	212 Elm Street	North Haven	CT	06473	1		0	0	0.00
Branford Winnelson	Wholesalers	22 Mcdermott Road	Branford	CT	06405	1		0	0	0.00
R.E. Michel Company, Inc	Wholesalers	23 Perry Avenue	Norwalk	CT	06850	2		0	0	0.00
United Refrigeration	Wholesalers	230 Wawarme Avenue	Hartford	CT	06114	1	12/18/2014	76	305	1.89
Supply New England	Wholesalers	235 Newfield Ave.	West Hartford	CT	06106	1		0	0	0.00
Plimpton & Hills Corp.	Wholesalers	24 Nod Road	Clinton	CT	06413	1		0	0	0.00
The Shaffer Company	Contractor	242 Main Street	Bristol	CT	06010	1		0	0	0.00
Johnstone Supply	Wholesalers	255 Locust Street	Hartford	CT	06114	2	11/07/2014	17	38	0.24
Litco Supply	Wholesalers	261 Oak Avenue	Torrington	CT	06790	1		0	0	0.00
Sid Harvey Industries	Wholesalers	266 Bridge St.	Groton	CT	06340	1		0	0	0.00
West Side Oil	Contractor	27 Babbs Road	West Suffield	CT	06093	3		0	0	0.00
Sid Harvey Industries	Wholesalers	278 Railroad Hill St	Waterbury	CT	06708	1	02/07/2014, 08/25/2014	76	229	1.42
Hartford Winnelson	Wholesalers	287 Homestead Avenue	Hartford	CT	06112	1		0	0	0.00
R.E. Michel Company, Inc	Wholesalers	295 Murphy Road	Hartford	CT	06114	2	12/19/2014	60	68	0.42
Standard Oil Of Ct	Contractor	299 Bishop Avenue	Bridgeport	CT	06610	1		0	0	0.00
Plimpton & Hills Corp.	Wholesalers	30 Federal Road	Danbury	CT	06810	1		0	0	0.00
The Granite Group	Wholesalers	300 Sackett Point Rd	North Haven	CT	06473	1	05/28/2014	3	3	0.02
Dougherty Oil Co Inc	Contractor	31 Acorn Road	Branford	CT	06405	2	12/11/2014	90	91	0.56
Viking Supply	Wholesalers	31 Connecticut Avenue	Norwich	CT	06360	1		0	0	0.00
Town Of Manchester	HHW Facility	311 Olcott	Manchester	CT	06040	2	12/23/2014	9	12	0.07



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Transfer Station		Street								
Bell Simon Co.	Wholesalers	319 Murphy Road	Hartford	CT	06114	1	03/28/2014, 10/16/2014, 04/14/2014	137	192	1.19
Valley Energy Co.	Contractor	321 Albany Tpk	Canton	CT	06019	1		0	0	0.00
Michael R Mader Co, Inc	Contractor	33 Great Neck Rd	Waterford	CT	06385	2		0	0	0.00
Kasden Fuel	Contractor	340 Tolland Street	East Hartford	CT	06108	1		0	0	0.00
Valley Oil	Contractor	36 Brownstone Ave.	Portland	CT	06480	3		0	0	0.00
Litco Supply	Wholesalers	38 Prospect Hill Road	East Windsor	CT	06088	1	12/23/2014	11	11	0.07
Quality Plumbing Supply	Wholesalers	380 Davenport Ave.	New Haven	CT	06519	1		0	0	0.00
Servco Oil Company	Contractor	387 Danbury Road	Wilton	CT	06897	1		0	0	0.00
Stafford Mechanical Services	Contractor	4 Industrial Park Drive	Stafford Springs	CT	06076	1		0	0	0.00
Carrier Enterprise	Wholesalers	4 Wilton Ave.	Norwalk	CT	06851	1		0	0	0.00
Torrington Supply	Wholesalers	40 Mead Street	Stratford	CT	06615	1		0	0	0.00
Plimpton & Hills Corp.	Wholesalers	401 New State Road	Manchester	CT	06040	1		0	0	0.00
Htg Oil Ptnr/Ddlc Energy	Contractor	410 Bank St	New London	CT	06360	1		0	0	0.00
Ddlc Energy	Contractor	410 Bank Street	New London	CT	06320	2		0	0	0.00
Dasco - Dunphey & Associates Supply Co., Inc.	Wholesalers	43 Homestead Ave.	Stamford	CT	06902	1		0	0	0.00
The Granite Group	Wholesalers	464 South Main St	Colchester	CT	06415	1	08/20/2014	104	151	0.94
Trane Supply	Wholesalers	47 Harbor View Avenue	Stamford	CT	06902	1		0	0	0.00
Trane Supply	Wholesalers	485 Ledyard Street	Hartford	CT	06114	1		0	0	0.00
Brothers Oil Company	Contractor	486 School St.	East Hartford	CT	06108	1		0	0	0.00
Turner And Harrison	Wholesalers	54 Research Drive	Stanford	CT	06906	2		0	0	0.00
The Granite Group	Wholesalers	55 North Main	Norwich	CT	06360	1		0	0	0.00

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		St								
The Granite Group	Wholesalers	553 Gold Star Highway	Groton	CT	06340	1		0	0	0.00
The Metropolitan District	HHW Facility	555 Main Street	Hartford	CT	06103	1		0	0	0.00
F.W. Webb	Wholesalers	570 Vauxhall Street Ext	Waterford	CT	06385	1		0	0	0.00
Trane Supply	Wholesalers	571 Broad Street	New London	CT	06320	1		0	0	0.00
Automatic Tlc	Contractor	64 Oakland Avenue	East Hartford	CT	06108	3		0	0	0.00
R.E. Michel Company, Inc	Wholesalers	640 Access Road	Stratford	CT	06615	2		0	0	0.00
Supply New England	Wholesalers	640 Bost Post Road	Guilford	CT	06437	1		0	0	0.00
Willimantic Winnelson	Wholesalers	65 Moalton Ct.	Willimantic	CT	06226	1		0	0	0.00
F.W. Webb	Wholesalers	650 Ella T Grasso Blvd	New Haven	CT	06519	1		0	0	0.00
Carrier Enterprise	Wholesalers	650 Long Beach Blvd	Stratford	CT	06615	1		0	0	0.00
City Of Bristol Solid Waste Transfer Station	HHW Facility	685 Lake Ave.	Bristol	CT	06010	1		0	0	0.00
Southeast Connecticut Regional Resources Recovery Authority	HHW Facility	7 Hurlbutt Road	Gales Ferry	CT	06335	13		0	0	0.00
Carrier Enterprise	Wholesalers	70 Meadow Street	Hartford	CT	06114	1	05/28/2014	2	2	0.01
Portland Winair Co.	Wholesalers	70 Tuttle Road	Middletown	CT	06457	1		0	0	0.00
Sid Harvey Industries	Wholesalers	700 Lordship Blvd	Stratford	CT	06615	1	09/04/2014	78	87	0.54
The Granite Group	Wholesalers	71 - 81 Front St	Putnam	CT	06260	1		0	0	0.00
F.W. Webb	Wholesalers	737 Bank St.	Waterbury	CT	06708	1		0	0	0.00
Shelton Winair Co.,	Wholesalers	740 River Road	Shelton	CT	06484	2	05/14/2014, 05/14/2014	188	325	2.02
Sid Harvey Industries	Wholesalers	75 Hamilton St	New Haven	CT	06511	1	05/02/2014, 07/15/2014	160	175	1.08
The Granite Group	Wholesalers	75 Jefferson Ave	New London	CT	06320	1	05/27/2014, 07/14/2014	3	4	0.02
The Granite Group	Wholesalers	8 Custom Dr	Old Saybrook	CT	06475	1	05/27/2014	3	3	0.02

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Daniels Oil Co., Inc.	Contractor	8 High Street Po Box 32	Portland	CT	06480	2		0	0	0.00
Bell Simon Co.	Wholesalers	805 Wood Ave	Bridgeport	CT	06604	1	06/25/2014	97	115	0.71
New England Heating Supply	Wholesalers	805 Wood Avenue	Bridgeport	CT	06604	1		0	0	0.00
R.E. Michel Company, Inc	Wholesalers	840 Access Road	Stratford	CT	06615	2	09/04/2014, 12/10/2014	104	143	0.89
Commerical Heating Supply	Wholesalers	85 James Street	East Hartford	CT	06108	1		0	0	0.00
Torrco	Wholesalers	87 Union Street	New Haven	CT	06511	1	05/23/2014	88	100	0.62
The Granite Group	Wholesalers	873 Norwich Rd	Plainfield	CT	06374	1	09/12/2014	4	4	0.02
Town Of Watertown	HHW Facility	91 Burton Street	Watertown	CT	06795	1		0	0	0.00
The Bell Pump Company	Wholesalers	91 Crystal Avenue	New London	CT	06320	1		0	0	0.00
R.E. Michel Company, Inc	Wholesalers	91 Prestige Park Circle, Unit 4	East Hartford	CT	06108	2	02/06/2014, 02/07/2014, 08/07/2014	567	690	4.28
Plimpton & Hills Corp.	Wholesalers	92 Research Drive	Stamford	CT	06906	1		0	0	0.00
Stamford Winnelson	Wholesalers	95 Elmcraft Road	Stamford	CT	06902	1		0	0	0.00
Quality Mechanical Service	Contractor	95 Turner Avenue	Torrington	CT	06790	1	07/08/2014	11	11	0.07
Thames Valley Winnelson	Wholesalers	975 North Road	Groton	CT	06340	1		0	0	0.00
City Of Bridgeport, Department Of Public Facilities	HHW Facility	999 Broad St	Bridgeport	CT	06604	1		0	0	0.00
Montville Hardware	Retailers	P.O. Box 506, 907 Rt 32	Uncasville	CT	06382	1		0	0	0.00