



Switch the 'Stat 2010 Annual Report

July 1, 2010 to December 31, 2010

Administered by:



Delivered by:



Submitted to:

Director, Environmental Management Act
Environmental Quality Branch
Environmental Protection Division
British Columbia Ministry of Environment

July 2011

This annual report is issued by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) in accordance with the British Columbia Recycling Regulation (Reg. 449/2004). The 2010 annual report documents the Switch the 'Stat program's activities and results in British Columbia from July 1, 2010 to December 31, 2010.

Any questions or comments about the 2010 annual report should be directed to HRAI at:

April Gucciardo
Manager
Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)
2800 Skymark Avenue
Building 1, Suite 201
Mississauga, ON L4W 5A6
1-800-267-2231
agucciardo@hrai.ca

Any questions or comments about the Switch the 'Stat program operations should be directed to Summerhill Impact at:

Janet Taylor
Program Manager, Switch the 'Stat
Summerhill Impact
1216 Yonge Street
Toronto, ON M4T 1W1
416-922-2448 x241
switchthestat@summerhillgroup.ca



Warren Heeley
President
Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)

Date: July 15, 2011



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1. Program Outline

Switch the 'Stat is a stewardship program designed to divert end-of-life thermostats from landfills and to ensure these products are responsibly recycled in accordance with the British Columbia Recycling Regulation (Reg. 449/2004). The Heating Refrigeration and Air Conditioning Institute of Canada (HRAI), with support from the Canadian Institute for Plumbing and Heating (CIPH), administers the program on behalf of manufacturers and distributors responsible for selling thermostats into British Columbia. Summerhill Impact delivers the program on behalf of HRAI.

The Switch the 'Stat program began operating in British Columbia on July 1, 2010 and is based on the program that was developed in Ontario and started operating in 2006.

This annual report documents the program's activities and results in British Columbia from July 1, 2010 to December 31, 2010.

Product Category

The Switch the 'Stat program collects all "thermostats" as defined as a product that senses and controls room temperature through communication with heating, ventilation and air conditioning equipment from all sectors (residential and commercial), including:

- Electromechanical thermostats, which contain internal mercury switches (mercury in a sealed glass bulb) or snap switches to control the flow of electrical current; and,
- Electronic thermostats, which use sensors instead of switches to detect temperature levels and electronically control the flow of electrical current.

Steward Engagement

Between February and December 2010, HRAI undertook communications activities to engage manufacturers and distributors that sell thermostats into British Columbia to be part of the Switch the 'Stat program. Twenty-nine companies were contacted prior to December 31, 2010. A total of 19 manufacturers signed up to be a part of the program. The complete list of manufacturers that are participating in the program is provided in Appendix A.

Governance Structure

In late 2009, an Advisory Committee was established that includes thermostat manufacturers and distributors, HVAC wholesalers, CIPH and HRAI. Meetings occur on a quarterly basis and the Terms of Reference are currently being reviewed and awaiting approval of the Advisory Committee.



2. Collection System Information

Collection Channels

As described in more detail in the “British Columbia Stewardship Plan for Thermostats” (available at <http://switchthestat.ca/eng/stewardship-plans.php>), Switch the ‘Stat uses the following four channels to collect end-of-life thermostats in British Columbia:

1. HVAC contractors/wholesalers
2. Return-to-retail events
3. Send-back option
4. Regional district/municipal collection

1. Contractors/wholesalers

All participating contractors and wholesalers provide collection for thermostats that they remove from homes and businesses. Some of these companies also act as year-round drop-off locations for the general public. Once a company is registered for Switch the ‘Stat, Summerhill Impact sends them a collection container, an introductory letter, program instructions, program signage, information brochures to leave behind with their customers, and a pre-paid courier waybill. The contractors and wholesalers collect thermostats until their containers are full, or until they are requested to return their container during a collection “sweep”. The full containers are picked up by the courier and shipped directly to the recycling facility.

2. Return-to-retail events

In November 2010, Switch the ‘Stat ran a one-weekend, timed collection event at 10 retail locations in British Columbia. The communities where the collection events operated are listed in Table 1. Leading up to and during these events, in-store signage was displayed near the new thermostats and in the retail flyer to promote the collection events. During the retail events, Switch the ‘Stat hired program representatives to be in-store to manage the collection of returned thermostats, answer questions and administer a survey to all participants. In addition to free collection and recycling, the return-to-retail events also offered a financial incentive, provided by the retailer, toward the purchase of a new thermostat with the return of an old one.

Table 1: The Home Depot Locations for Return-to-Retail Events in British Columbia

| |
|----------------------|
| Kelowna |
| West Bank |
| Cranbrook |
| Victoria |
| Langley |
| Burnaby |
| Vancouver (Terminal) |
| Prince George |
| Kamloops |
| Vernon |



3. Send-back option

This collection channel is provided as an option for British Columbia residents living in remote areas, and can be requested through an on-line request form on the Switch the 'Stat website. When requested, the resident is sent a shipping container with a pre-paid courier waybill to ship their old thermostat directly to the recycler.

4. Regional district/municipal collection

In response to voluntary requests from regional districts and municipalities to act as collection points for old thermostats, Switch the 'Stat provides the same resources (i.e., container, signage, courier waybill, etc.) that are sent to participating contractors and wholesalers, and uses the same infrastructure to ship the full containers to the recycler.

Program Participants

Recruitment for Switch the 'Stat collection locations continues on an ongoing basis. Leading up to July 1, 2010 and during the first six months of the program, emphasis was put on recruiting and educating contractors, wholesalers and regional districts about the Switch the 'Stat program. Table 2 summarizes the number of participants that registered for the Switch the 'Stat program each month.

Table 2: Number of Participants Recruited for Switch the 'Stat in British Columbia

| Month | Number of Participants Recruited |
|--------------|---|
| July | 50 |
| August | 4 |
| September | 3 |
| October | 3 |
| November | 13 |
| December | 23 |

As of December 31, 2010, there were 96 collection points across British Columbia.

Table 3 provides a breakdown of registered program registrants by collection channel, and Table 4 provides a summary of the collection locations by regional district within British Columbia.

Table 3: Number of Participants/Locations by Collection Channel

| Channel | Number of Participants/Collection Locations |
|-------------------|--|
| Contractor | 34 |
| Wholesaler | 46 |
| Regional District | 11 |
| Send-back | 5 |
| Return-to-retail | 10 |



Table 4: Participants/Locations by Collection Channel in Each Regional District in British Columbia

| District | Total Collection points | Regional District | Contractor | Wholesaler | Send-back | Drop-off Locations |
|---|-------------------------|-------------------|------------|------------|-----------|--------------------|
| Alberni-Clayoquot Regional District | 1 | 1 | 0 | 0 | 0 | 1 |
| Capital Regional District | 9 | 1 | 3 | 5 | 0 | 4 |
| Comox Valley Regional District | 1 | 0 | 0 | 1 | 0 | 1 |
| Cowichan Valley Regional District | 4 | 3 | 0 | 1 | 0 | 4 |
| Fraser Valley Regional District | 5 | 0 | 1 | 2 | 2 | 3 |
| Metro Vancouver (Greater Vancouver Regional District) | 49 | 4 | 21 | 22 | 2 | 20 |
| Peace River Regional District | 2 | 1 | 0 | 1 | 0 | 1 |
| Regional District of Central Kootenay | 1 | 0 | 0 | 1 | 0 | 1 |
| Regional District of Central Okanagan | 3 | 0 | 1 | 2 | 0 | 1 |
| Regional District of East Kootenay | 1 | 0 | 0 | 1 | 0 | 1 |
| Regional District of Fraser-Fort George | 1 | 0 | 0 | 1 | 0 | 1 |
| Regional District of Kootenay Boundary | 2 | 0 | 2 | 0 | 0 | 0 |
| Regional District of Nanaimo | 5 | 1 | 1 | 3 | 0 | 3 |
| Regional District of North Okanagan | 3 | 0 | 1 | 1 | 1 | 2 |
| Regional District of Okanagan-Similkameen | 1 | 0 | 0 | 1 | 0 | 1 |
| Squamish-Lillooet Regional District | 1 | 0 | 0 | 1 | 0 | 0 |
| Strathcona | 1 | 0 | 0 | 1 | 0 | 1 |
| Sunshine Coast Regional District | 2 | 0 | 1 | 1 | 0 | 2 |
| Thompson-Nicola Regional District | 3 | 0 | 2 | 1 | 0 | 3 |
| Regional District of Kitimat-Stikine | 1 | 0 | 1 | 0 | 0 | 0 |
| TOTAL | 96 | 11 | 34 | 46 | 5 | 50 |

A full list of participating collection locations is provided in Appendix B.



3. Educational and Awareness Raising

Website

Leading up to July 1, 2010, the existing Switch the 'Stat website was updated to include information about the expansion of the program into British Columbia. These updates included posting the stewardship plan and approval letter, and adding a mapping function that allows British Columbia residents to search by postal code for participating collection locations. Between July 1st, 2010 and December 31, 2010 there were 628 visits to the "drop-off locations" page for British Columbia.

The Switch the 'Stat website also expanded to accommodate web accessible outreach materials for program participants and program partners with items such as downloadable web banners, logo images, program brochure and program poster.

Printed Resources

In addition to existing program brochures, a new Switch the 'Stat program poster for wholesalers and contractors was created and distributed. The poster (which is included in Appendix C) is intended to be displayed at wholesale locations to raise contractor awareness of the program.

Municipal Advertising

In 2010, the Switch the 'Stat program purchased advertising space in the waste reduction/community calendars of the following municipalities in British Columbia:

- North/West Vancouver
- Mission
- Bulkley Nechako
- Invermere
- Thompson Nicola (excluding Kamloops)
- Central Okanagan
- Okanagan Similkameen
- Kootenay Boundary
- Peace River
- Chilliwack

Return-to-Retail Events

In order to promote the timed return-to-retail events, Switch the 'Stat worked with the participating retailer (The Home Depot) to create the following resources:

- Flyer advertising
- In-store signage
- Coupons
- Branded t-shirts for the Switch the 'Stat reps
- Branded table display

Examples of the retail resources are provided in Appendix C.



In addition to the retail promotion described above, Switch the 'Stat also undertook a media/PR campaign for the retail events that included developing and distributing a press release and related Q&As, undertaking a targeted outreach campaign to local media outlets to pitch the story and get them to cover the events, and arranging for event representatives to be available to speak to media as needed. Media coverage of the events included three television stories, four print stories, three radio interviews and eight on-line stories/posts.

Recycling Council Of British Columbia

As described in the stewardship plan, Switch the 'Stat advertised via the RCBC website and hotline. Between July 1 and December 31, 2010, RCBC received 75 calls from the public related to thermostat disposal, with the following being the top three questions that were asked:

- Where can I take my thermostat to recycle?
- What if it is broken?
- Are other mercury-containing products (like thermometers) included in the Switch the 'Stat program?

Both the RCBC staff and the RCBC website would direct residents to the Switch the 'Stat website for more information.

Industry Communications

As part of an ongoing effort to educate the HVAC industry about the Switch the 'Stat program, the following activities were undertaken:

- Promoted the program via industry newsletters and publications, both through industry associations (such as HRAI, CIPH and TECA) as well as through independent publications and targeted mailing and outreach to non-association companies
- Utilized wholesaler, distributor and manufacturer outreach channels such as websites, newsletters, advertising and signage to promote the program to contractors
- Provided a link from the US Thermostat Recycling Corporation website to the Switch the 'Stat website in order to take advantage of the messaging that informs consumers that old thermostats may contain mercury and how to find a disposal location

4. Recovery Rate

As described in the approved stewardship plan, it is estimated that there are approximately 13,500 thermostats available for collection in British Columbia on an annual basis. Our collection target for Year 1 (July 1, 2010 to June 30, 2011) is 25 per cent, or 3,375 thermostats. Adjusting this number for a six-month period means we would expect to collect 1,688 thermostats between July 1, 2010 and December 31, 2010.

Table 5 shows the actual collection results for the first six months of the program as collected through all four of the collection channels.



Table 5: Switch the 'Stat Collection Results for British Columbia – July 1, 2010 to December 31, 2010

| 20010 Results | Number of Mercury Switches | Number of Mercury Thermostats | Number of Electronic Thermostats | Weight of Plastics (kg) | Weight of Metals (kg) |
|--------------------|----------------------------|-------------------------------|----------------------------------|-------------------------|-----------------------|
| July | 163 | 78 | 2 | 1.80 | 1.80 |
| August | 279 | 136 | 1 | 2.90 | 2.50 |
| September | 0 | 0 | 0 | 0 | 0 |
| October | 0 | 0 | 0 | 0 | 0 |
| November | 793 | 249 | 21 | 15.60 | 11.60 |
| December | 64 | 35 | 1 | 2.05 | 6.055 |
| 2010 Totals | 1,299 | 498 | 25 | 22.35 | 21.955 |

We believe there are a number of reasons why the collection results for the first six months of the program are lower than our target:

- We received a high proportion of “loose” switches rather than the whole thermostat – in following up with companies that sent us these loose switches, we learned that they thought they were doing the program a favour by just returning the part of the thermostat that was hazardous; we explained that we want the whole thermostats and have revised all of the introductory resources that are sent to collection facilities to emphasize the need to return the whole, intact thermostat
- We spent much of the first six months recruiting collection locations to participate in the program and know that it can take months to years for some companies to fill the collection container before shipping it back to the recycler – in order to get a sense of what had been collected but not returned through the British Columbia program, we undertook a collection “sweep” in May 2011
- Due to issues of seasonality where people may not consider replacing a thermostat during certain points of the year, we expect to see peaks and valleys in the collection results
- Due to the nature of the product having a very long lifespan, it may take some time to educate the public about our program and the value in switching to a new thermostat

5. Pollution Prevention

All thermostats that are collected through the Switch the 'Stat program are dismantled and recycled. The thermostats are shipped directly to Tri-Arrow Industrial Recovery Inc. (located in Surrey, BC) where they are documented and dismantled for recycling. The plastic components are sent to Westcoast Plastic Recycling (located in Richmond, BC) and the metal components are sent to ABC Recycling (located in Surrey, BC). Components of the electronic thermostats are sent to Electronics Recycling (located in Surrey, BC). The mercury (which is contained in glass vials) is sent to Aevitas (located in Ayr, Ontario). The mercury that was collected between July 1, 2010 and December 31, 2010 was sent to Aevitas for recycling in June 2011.



Pollution Prevention Hierarchy

Reduce/Redesign

The main environmental concern with thermostats is the mercury contained in many of the older models. While mercury-containing thermostats have been in use for more than 50 years, they are no longer manufactured by the major manufacturers.

Reuse

The Switch the 'Stat program does not encourage reuse of the thermostats that are collected for two main reasons – many of the older set-back thermostats contain mercury and for the electronic thermostats, there is a risk that they will not meet the technical/safety specifications of new HVAC systems.

Recycle

All of the material components (i.e., mercury, glass, metal, plastic and electronics) are recycled and diverted from landfill.

6. Fee Information

The Switch the 'Stat program does not charge or collect fees for new thermostats sold in British Columbia.

7. Performance Targets

| 2010 Target from Approved Stewardship Plan | 2010 Report on the Target (July 1, 2010 – December 31, 2010) |
|--|---|
| 100 participating contractors within the first six months | 96 participants were recruited for the program within the first six months |
| Collection target of 1,688 thermostats within the first six months | A total of 523 thermostats and 1,299 mercury-containing switches were collected for processing within the first six months of the program — 498 of the thermostats were mercury-containing and 25 were electronic |
| Program website that is specific to British Columbia will be operational by July 1, 2010 and updated on a monthly basis (including the list of participating contractors/wholesalers and upcoming return-to-retail events) | The website was updated by July 1, 2010 with program information specific to British Columbia, including a map that provides information on participating contractors/wholesalers; information about the return-to-retail events was posted on the website during October and November 2010 |



| | |
|--|---|
| A minimum of 5,000 brochures will be printed and distributed on an annual basis | 5,000 brochures were printed in September 2010; brochures are distributed to all participating collection locations as part of their participant kit; brochures were distributed during the retail events |
| A minimum of 20 posters will be printed and displayed in Year 1 | Posters are distributed to all participating collection locations as part of their participant kit; in-store signage was printed and displayed at all 10 retail locations |
| Advertising via the Recycling Council of British Columbia's website and hotline – information about the Switch the 'Stat program will be supplied to RCBC by July 1, 2010 for use on their website and hotline | Information about the Switch the 'Stat program can be found on the RCBC website under the "Recyclepedia" search function |
| Advertising in waste reduction/community calendars or websites for regional districts for at least 25 municipalities throughout Year 1 | During the first six months of the program, ads were purchased for 10 municipal calendars across British Columbia |



Appendix A – Participating Stewards

- Bard Manufacturing Company Inc.
- Carrier Canada Ltd.
- Climatedmaster Inc.
- Emerson/White Rodgers
- Empire Comfort Systems Inc.
- Honeywell
- International Comfort Products
- ITT Corporation
- Johnson Controls
- Lennox International Inc.
- McQuay International
- Nordyne
- PSG Controls Inc.
- Sears Canada Inc.
- Tekmar Control Systems Ltd.
- TPI Corporation
- Thomas & Betts Ltd.
- Uponor Ltd.
- Waterfurnace International, Inc.



Appendix B – Participating Collection Locations

| Company Name | District | Address | City |
|---|---|---------------------------|----------------|
| 101 Industries Ltd. | Regional District of Kitimat–Stikine | 245- 3rd Street | Kitimat |
| Alberni- Clayoquot Regional District | Alberni–Clayoquot Regional District | 3008 5th Ave | Port Alberni |
| Amre Supply Co Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 6080 Russ Baker Way | Richmond |
| Andrew Sheret Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 4500 Vanguard Rd. | Richmond |
| Andrew Sheret Ltd. | Capital Regional District | 101 895 Langford Pkwy | Langford |
| Andrew Sheret Ltd. | Regional District of Fraser – Fort George | 3500 Massey Dr. | Prince George |
| Andrew Sheret Ltd. | Regional District of Central Kootenay | 2717 Columbia Ave. | Castlegar |
| Andrew Sheret Ltd. | Thompson–Nicola Regional District | 1242 McGill Rd. | Kamloops |
| Andrew Sheret Ltd. | Regional District of Okanagan–Similkameen | 298 Duncan Ave W. | Penticton |
| Andrew Sheret Ltd. | Regional District of North Okanagan | 1020 Waddington Dr. | Vernon |
| Andrew Sheret Ltd. | Regional District of Central Okanagan | 440 Banks Rd. | Kelowna |
| Andrew Sheret Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 1602 Kebet Way | Port Coquitlam |
| Andrew Sheret Ltd. | Fraser Valley Regional District | 2045 Paramount Cres. | Abbotsford |
| Andrew Sheret Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 19558 56th Ave. | Surrey |
| Andrew Sheret Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 7434 Edmonds St. | Burnaby |
| Andrew Sheret Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 425 East Broadway | Vancouver |
| Andrew Sheret Ltd. | Cowichan Valley Regional District | 108 5462 Trans Canada Hwy | Duncan |
| Andrew Sheret Ltd. | Regional District of Nanaimo | 3 1137C Smithers Rd. | Parksville |
| Andrew Sheret Ltd. | Comox Valley Regional District | 780 30th St. | Courtenay |
| Andrew Sheret Ltd. | Strathcona | 1395 Maple St. | Campbell River |
| Andrew Sheret Ltd. | Regional District of Nanaimo | 2545 McCullough Rd. | Nanaimo |
| Andrew Sheret Ltd. | Capital Regional District | 712 Bay St. | Victoria |
| Andrew Sheret Ltd. | Capital Regional District | 721 Kings Rd. | Victoria |
| Archie Johnstone Plumbing & Heating Ltd | Regional District of Nanaimo | 150 Wallace St. | Nanaimo |
| B.A. Robinson Co. Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 275 E. 1st Ave | Vancouver |
| Bartle & Gibson | Squamish–Lillooet Regional | 1410 Alpha Lake Rd, | Whistler |



| | District | | |
|---------------------------------------|---|---------------------------|------------------|
| BC Comfort Ltd | Metro Vancouver (Greater Vancouver Regional District) | 7405 lowland Dr, | Burnaby |
| Bings Creek Solid Waste Management | Cowichan Valley Regional District | 3900 Drinkwater Rd. | Duncan |
| Bucky House | Metro Vancouver (Greater Vancouver Regional District) | 507 Fader St. | New Westminister |
| Cairnview Mechanical Ltd. | Capital Regional District | 1138 Old Esquimalt Rd. | Victoria |
| Campbell Care | Metro Vancouver (Greater Vancouver Regional District) | 7063 Venture Street | Delta |
| City of Vancouver landfill | Metro Vancouver (Greater Vancouver Regional District) | 5400 block 72nd Street | Delta |
| CR Martin Heating | Metro Vancouver (Greater Vancouver Regional District) | 96th Avenue | Langley |
| Custom Cooling Solutions | Metro Vancouver (Greater Vancouver Regional District) | #204, 20445 - 62 Ave | Langley |
| Duke Refrigeration & HVAC | Metro Vancouver (Greater Vancouver Regional District) | 102 - 9780 197B St | Langley |
| Ecco Supply | Metro Vancouver (Greater Vancouver Regional District) | 2969 Lake City Way | Burnaby |
| Eco Depot Recycling Centre | Peace River Regional District | 10107 - 94 Avenue | Fort St. John |
| Emco Corp. | Regional District of East Kootenay | 756 Industrial Road #2 | Cranbrook |
| EMCO CORP. #821 | Regional District of Nanaimo | 2258 Dorman Rd. | Nanaimo |
| EMCO Corporation | Metro Vancouver (Greater Vancouver Regional District) | #101-20577 Langley Bypass | Langley |
| EMCO Corporation | Capital Regional District | 550 Culduthel Road | Victoria |
| Emco Corporation | Peace River Regional District | 10709 Alaska Road | St. John |
| Ener_save | Metro Vancouver (Greater Vancouver Regional District) | #24-15515-24th Ave | Surrey |
| Gandy Installations | Metro Vancouver (Greater Vancouver Regional District) | 20363 62nd Ave, | Langley |
| Hartland Landfill | Capital Regional District | 1 Hartland Ave. | Victoria |
| Heritage Mountain Heating and Cooling | Metro Vancouver (Greater Vancouver Regional District) | 65-2000 Panorama Drive | Port Moody |
| Independent Supply Company | Metro Vancouver (Greater Vancouver Regional District) | 3030 Beta Ave | Burnaby |
| J. Balfour & Sons Ltd. | Regional District of Kootenay Boundary | 1151 Cedar Avenue | Trail |
| John Sherman Agencies | Metro Vancouver (Greater Vancouver Regional District) | 1641 Venable St | Vancouver |
| JV Gasworks | Capital Regional District | Brethour Ave. | Sidney |
| Keith Plumbing & Heating | Metro Vancouver (Greater Vancouver Regional District) | 40 Gostick Place | North Vancouver |
| Lazar Plumbing & | Metro Vancouver (Greater | #704-625 Fifth Ave | New |



| | | | |
|--|---|----------------------------|---------------|
| Heating Inc. | Vancouver Regional District) | | Westminster |
| Meade Creek Recycling Drop-Off Depot | Cowichan Valley Regional District | 8855 Youbou Rd. | Lake Cowichan |
| MPH Supply | Metro Vancouver (Greater Vancouver Regional District) | 1001 Veneables St. | Vancouver |
| MPH Supply | Metro Vancouver (Greater Vancouver Regional District) | 822 Henderson Ave | Coquitlam |
| MPH Supply | Sunshine Coast Regional District | 1856 Cosyan Place | Wilson Creek |
| MPH Supply | Metro Vancouver (Greater Vancouver Regional District) | 11754 215th Street | Maple Ridge |
| MPH Supply | Fraser Valley Regional District | 32873 London Ave | Mission |
| Myers Controls & Equip Ltd | Metro Vancouver (Greater Vancouver Regional District) | 3111 Norland Ave | Burnaby |
| Nanaimo Recycling Exchange | Regional District of Nanaimo | 2477 Kenworth Rd. | Nanaimo |
| Nedco | Metro Vancouver (Greater Vancouver Regional District) | 455 No.6 Road | Richmond |
| Neels Heating & Supplies Ltd. | Fraser Valley Regional District | 46721 Prairie Central Road | Chilliwack |
| Pacific Clean Air | Metro Vancouver (Greater Vancouver Regional District) | 171 - 4631 Shell Rd | Richmond |
| Pacific Controls Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 2055 Columbia St. | Vancouver |
| Peerless Road Recycling Drop-Off Depot | Cowichan Valley Regional District | 10830 Peerless Rd. | Ladysmith |
| Platinum Mechanical Systems Ltd. | Metro Vancouver (Greater Vancouver Regional District) | 3995 Slocan Street | Vancouver |
| Plumbingworks | Metro Vancouver (Greater Vancouver Regional District) | #1704 11B Seymour Street | Vancouver |
| Primoheat | Metro Vancouver (Greater Vancouver Regional District) | #360-19567 Fraser Hwy | Surrey |
| Pro Star Mechanical Technologies Ltd. | Capital Regional District | 524 William Street | Victoria |
| Rapid Cool Mechanical | Thompson–Nicola Regional District | 765 Notre Dame Drive | Kamloops |
| Refrigerative Supply | Metro Vancouver (Greater Vancouver Regional District) | 8028 North Fraser Way | Burnaby |
| Refrigerative Supply | Metro Vancouver (Greater Vancouver Regional District) | 20392-65th Avenue | Langley |
| Refrigerative Supply | Metro Vancouver (Greater Vancouver Regional District) | 2394 Canoe Avenue | Coquitlam |
| Refrigerative Supply | Metro Vancouver (Greater Vancouver Regional District) | 3958 Myrtle Street | Burnaby |
| Refrigerative Supply | Regional District of Central Okanagan | 1885 Baron Road | Kelowna |
| Refrigerative Supply | Capital Regional District | 524 E Culduthel Road | Victoria |
| Refrigerative Supply | Metro Vancouver (Greater | 132 West 2nd Avenue | Vancouver |



| | | | |
|---|---|-------------------------------|--------------|
| | Vancouver Regional District) | | |
| RIDGE MEADOWS RECYCLING SOCIETY | Metro Vancouver (Greater Vancouver Regional District) | 10092 236th street - Box #283 | Maple Ridge |
| Shell Busey's HouseSmart Referral Network | Metro Vancouver (Greater Vancouver Regional District) | 7 - 2320 King George Hwy | Surrey |
| Solace Homeworks | Metro Vancouver (Greater Vancouver Regional District) | 7806 Express St. | Burnaby |
| Stevenson Mechanical Ltd. | Regional District of North Okanagan | 2603 35th St. | Vernon |
| Sun Coast Plumbing and Heating | Sunshine Coast Regional District | UNIT 3 - 1877 Field Rd | Wilson creek |
| SureHeat Gas Fireplaces | Metro Vancouver (Greater Vancouver Regional District) | 5933 169 Street | Surrey |
| the Battery Doctors | Regional District of Central Okanagan | 1972 Windsor Rd. | Kelowna |
| Tri-Rom Industries Ltd. | Thompson–Nicola Regional District | #9 - 1251 - 12th St | Kamloops |
| Universal Supply | Metro Vancouver (Greater Vancouver Regional District) | 2835 East 12th Ave. | Vancouver |
| Vancouver Landfill | Metro Vancouver (Greater Vancouver Regional District) | 5400 72nd Street | Delta |
| Vancouver South Transfer Station | Metro Vancouver (Greater Vancouver Regional District) | 377 West Kent Avenue North | Vancouver |
| WDS Sheet Metal | Regional District of Kootenay Boundary | 148 Sagamore Ave . | Grand Forks |
| WWG/TOTALINE | Metro Vancouver (Greater Vancouver Regional District) | 155 West 3rd Ave. | Vancouver |



Appendix C – Program Resources

Switch the 'Stat Website

The screenshot shows the homepage of the Switch the 'Stat website. The browser address bar displays <http://switchthestat.ca/eng/index.php>. The page features a navigation menu on the left with links to Home, About the Program, Stewardship Plans & Approvals, Facts & Info, News, Program Results, Program Facilitators, Links & Resources, and Participate. The main content area is divided into several sections: a 'REGISTER to become a thermostat collection point' section, a 'Public Drop Off Locations' section, a large banner for 'Switch the 'Stat' Canada's only residential and commercial thermostat exchange program' featuring a close-up of a thermostat dial, a detailed description of the program, and a 'SWITCH THE 'STAT COUNTER' section with statistics: 71,408 Mercury Vessels, 45,872 Thermostats, and 178.5 Kilograms of Mercury. The footer includes a copyright notice for Summerhill 2011 and a Privacy Policy link.

http://switchthestat.ca/eng/index.php

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Contact Us SUMMERHILL GROUP OF COMPANIES

Administered by HRAI Delivered by Summerhill IMPACT

REGISTER
to become a
thermostat collection point

Public Drop Off Locations

- Home
- About the Program
- Stewardship Plans & Approvals
- Facts & Info
- News
- Program Results
- Program Facilitators
- Links & Resources
- Participate

Switch the 'Stat

Canada's only residential and commercial thermostat exchange program.

Switch the 'Stat is a residential and commercial thermostat recycling program currently running in Ontario, British Columbia and Manitoba.

Administered by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI), and supported by the Canadian Institute of Plumbing and Heating (CIPH), the Switch the 'Stat program works with heating and cooling contractors and wholesalers to encourage the installation of energy-efficient programmable thermostats, while simultaneously diverting the older mercury-containing and electronic thermostats from landfill. Switching to newer and more energy-efficient programmable thermostats and responsibly disposing of older mercury-containing thermostats reduces energy consumption, greenhouse gas emissions, and prevents mercury from contaminating our air, soil, and water.

Learn how to [Make the Right Switch!](#)

SWITCH THE 'STAT COUNTER

Number of Mercury Vessels:
71,408

Number of Thermostats:
45,872

Weight of Mercury in Kilograms:
178.5

Switch the 'Stat is administered by HRAI and delivered by Summerhill Impact.

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Downloadable Resources

The screenshot shows a web browser window at the URL <http://switchthestat.ca/resources/>. The page features a blue header with the 'Switch the 'Stat' logo on the left and 'Contact Us' and 'SUMMERHILL GROUP OF COMPANIES' on the right. Below the header, there is a 'Home' link and a 'Logos for Print' section. The 'Logos for Print' section includes instructions to right-click to download logos in EPS format and provides three links: 'Full Colour (400KB EPS)', 'Black (397KB EPS)', and 'Both Logos (406KB ZIP)'. Below this is a 'Banners for Web' section with instructions to copy HTML code for banner ads. Two examples of HTML code are provided, each enclosed in a dashed box. The first example shows a large banner with the text 'We're proud participants of the Switch the 'Stat program.' and the website URL. The second example shows a smaller button with the text 'PROUD PARTICIPANT' and the website URL. The browser's status bar at the bottom indicates 'Internet'.

http://switchthestat.ca/resources/

View Favorites Tools Help

Resources

Contact Us

SUMMERHILL GROUP OF COMPANIES

Delivered by Summerhill IMPACT

Home


Logos for Print

Right-click (control-click on Mac) to download Switch the 'Stat logos in EPS format:


- [Full Colour \(400KB EPS\)](#)
- [Black \(397KB EPS\)](#)
- [Both Logos \(406KB ZIP\)](#)

Banners for Web

Copy the HTML code below and paste it into your web page to display one or more of these banner ads on your site. Choose from a banner, small button, or tower graphic.



```
<a href="http://www.switchthestat.ca/">  
  
</a>
```



```
<a href="http://www.switchthestat.ca/">  
  
</a>
```

Internet



Switch the 'Stat Poster for Contractors and Wholesalers



ATTENTION HEATING AND COOLING CONTRACTORS!



Please dispose of your
fully intact
mercury-containing
thermostats
in our collection bin



For more information, please visit www.switchthestat.ca



Switch the 'Stat
1216 Yonge St, Suite 201, Toronto, ON M4T 1W1
Phone: 416-922-2448 Fax: 416-922-1028
Email: switchthestat@summerhillgroup.ca



Return-to-retail Event Set-up



Sample Media Coverage from Return-to-Retail Campaign

The screenshot shows a news article on the Global BC website. The article is titled "Diverting toxic mercury from local landfills" and is dated Saturday, November 6, 2010. It features a photo of a "Switch the Stat" thermostat with a warning label that says "CONTAINS MERCURY DO NOT DISPOSE OF WITH REGULAR WASTE". The article text describes a program to help divert poisonous mercury from local landfills by recycling old thermostats at Home Depot locations. It mentions that some old thermostats can contain up to 10 grams of mercury, while new ones are mercury-free. A quote from Sandra Guenther, a Switch the Stat representative, states: "Mercury is extremely dangerous," says Sandra Guenther, a Switch the Stat representative. "Each thermostat has approximately 2.5 grams of mercury and that can get into our water system and stay there for quite a while, going into our fish and then we eat the fish it becomes very toxic and it could be detrimental to health or lead to death."

On the right side of the page, there is a "Local News" section with a "Choose a Station" dropdown menu. Below it is a "LATEST VIDEO" section featuring a video player for "Global BC NEWS UPDATE". The video player shows a thumbnail with the Global BC logo and the text "NEWS UPDATE". Below the video player, there are several small video thumbnails for "Global BC NEWS UPD", "Global BC NEWS UPD", "Global BC WEATH", and "Global BC NEWS UPD".

At the bottom of the page, there is an advertisement for "WALL CENTRE FalseCreek" real estate. The ad features a large image of a modern building and text that reads: "PHASE ONE & TWO 391 HOMES SOLD - ONLY 28 REMAIN! VANCOUVER'S MOST SUCCESSFUL COMMUNITY IS WALL CENTRE FALSE CREEK. DON'T MISS OUT! WALLCENTREFALSECREEK.COM 604 874 9232". The RENNIE MARKETING SYSTEMS logo is also visible in the ad.



Switch the 'Stat Program

Report on Non-Financial Information

December 31, 2010

Switch the 'Stat Program

December 31, 2010

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To: The Heating, Refrigeration and Air Conditioning Institute of Canada

As specifically agreed, we have performed test procedures at Summerhill Impact ("the Agency") as described in this letter for the six-month fiscal period ended December 31, 2010 over certain non-financial information pertaining to the Switch the 'Stat program ("the Program") related to:

1. British Columbia Recycling Regulation 449/2004, Section 8(2)(b) - the location of its collection facilities, and any changes in the number and location of collection facilities from the previous report;
2. British Columbia Recycling Regulation 449/2004, Section 8(2)(d) - a description of how the recovered product was managed in accordance with the pollution prevention hierarchy; and,
3. British Columbia Recycling Regulation 449/2004, Section 8(2)(e) - the total amount of the producer's product sold and collected and, if applicable, the producer's recovery rate.

The results of applying the procedures are detailed in the attached Appendix. These procedures do not constitute an audit of the Agency's non-financial information and therefore, we express no opinion on the overall accuracy or completeness of the non-financial information of the Agency for the six-month fiscal period ended December 31, 2010.

This letter is for use solely by The Heating, Refrigeration and Air Conditioning Institute of Canada in connection with their consideration of the accuracy and completeness of certain non-financial information as reported by the Agency for the six-month fiscal period ended December 31, 2010.

Abrahamse Berkis Pinto & Associates LLP

Chartered Accountants, Licensed Public Accountants
July 15, 2011

1.

For the following procedures test samples were selected from the six-month fiscal period ended December 31, 2010, unless otherwise noted.

Non-Financial Information Requirement: British Columbia Recycling Regulation 449/2004, Section 8(2)(b) - the location of its collection facilities, and any changes in the number and location of collection facilities from the previous report;

| Testing Procedure 1.0 | To obtain comfort over the existence and accuracy of the collection facilities reported in the Agency's annual report. | |
|------------------------------|--|--|
| Procedures | | Results |
| 1. | For the period under review, obtain a listing from the Agency of all collection facilities participating in the program broken out by type. | <p>1. A listing of all collection facilities participating in the program during the period under review was obtained. The listing contained the following information for each collection facility:</p> <ul style="list-style-type: none"> a. Collection facility name and contact information b. Date of registration in the program c. Location of the collection facility by regional district d. Type of collection channel |
| 2. | Compare total count of collection facilities from the listing with the annual report; investigate any discrepancies with the Agency as applicable. | <p>2. The listing indicated there were 96 collection facilities participating in the program during the period under review, which agreed to the count as reported in the annual report.</p> <p>In addition, the listing indicated that 10 Home Depot locations participated in a "return to retail" event for a single weekend during the six-month fiscal period ended December 31, 2010, which agreed to the annual report.</p> |
| 3. | <p>Randomly select a sample of collection facilities participating in the program and obtain their registration form from their business file. Review the registration form to ensure the following criteria are met:</p> <ul style="list-style-type: none"> a. A registration form exists for the collection facility. b. The registration form lists contact information and location, which agrees with the detailed listing. c. The registration form is signed by the collection facility. | <p>3. A random sample of 35 collection facilities were selected from the listing.</p> <ul style="list-style-type: none"> a. A registration form existed for each of the 35 randomly sampled collection facilities. b. Each of the 35 registration forms contained the collection facility's contact information and location, which agreed to the detailed listing. c. Collection facilities register for the program by either submitting a paper registration form or via electronic registration through the Agency's program website. Of the 35 collection facilities sampled, 31 submitted by paper registration and 4 by website registration. The 4 website registrations did not contain a signature. |

| Testing Procedure 1.0 | To obtain comfort over the existence and accuracy of the collection facilities reported in the Agency's annual report | |
|---|--|--|
| <p>4. Using contact information on the facility listing provided in #1 above, phone each randomly selected collection facility to verify their existence and that they have an adequate understanding of the program.</p> | <p>4. Each of the 35 randomly sampled collection facilities were phoned and the following questions and responses were documented:</p> <p>Questions:</p> <ul style="list-style-type: none"> a. Was the collection facility a participant in the program during the six-month fiscal period ended December 31, 2010? b. Does the collection facility have an understanding of the purpose and benefits of the program, and if so, what is that understanding? c. Who were the collected thermostats shipped to for recycling, and what means of shipment was used? <p>Responses:</p> <ul style="list-style-type: none"> a. Each of the 35 contacts at the collection facilities confirmed that they registered during the six-month fiscal period ended December 31, 2010 and were participants in the program. b. The general theme of the response by each of the 35 contacts at the collection facilities was similar. The respondents were able to communicate that the purpose of the program is to promote the collection and proper recycling of thermostats to reduce the environmental impact that would result from improper disposal. As the responses were consistent to the program overview contained in the February 3, 2010 - Final British Columbia Stewardship Plan for Thermostats, it appears that all 35 of the collection facilities phoned had an adequate understanding of the program. c. All 35 of the collection facilities phoned confirmed that the thermostats collected were only shipped to Tri-Arrow Industrial Recovery Inc. ("the Processor") for recycling, and that the prepaid Purolator waybill was used to facilitate the shipment of thermostats from them to the Processor. | |

| | | |
|---|---|----------------|
| Testing Procedure 1.1 | To obtain comfort over the completeness, consistency, and validity of the number of collection facilities. | |
| Procedures | | Results |
| 1. Obtain the historical data for the total number of collection facilities for the past 3 years as reported by the Agency in their annual reports. | 1. The program formally commenced on July 1, 2010 and accordingly, no historical data is available for the program. | |
| 2. Investigate any fluctuations greater than 5% to understand the reason for the fluctuation in the number of collection facilities. | 2. The program's target number of collection facilities at the end of the first year, as stated in the February 3, 2010 - Final British Columbia Stewardship Plan for Thermostats was 200. Adjusting for the six-month fiscal period ended December 31, 2010, the target number of collection facilities would be 100. The program obtained 96 participants within the first six months which is less than a 5% variance from the performance target. | |

Non-Financial Information Requirement: British Columbia Recycling Regulation 449/2004, Section 8 (2)(d) - A description of how the recovered product was managed in accordance with the pollution prevention hierarchy.

| Testing Procedure 2.0 | To obtain comfort over the accuracy, completeness and existence of end-use of the product collected and the accuracy of the processor's receipt of weight, volume or quantity of product, test on a sample basis the deliveries of product recovered to their end-use. | |
|------------------------------|--|--|
| | Procedures | Results |
| | <p>1. Obtain a listing of products shipped to the Processor for the period under review. The listing should provide:</p> <p>a. The Processor's name and address.</p> <p>b. The total weight, volume or quantity of the product at the collection site.</p> <p>c. The total weight, volume or quantity of the product at the Processor.</p> <p>d. The date of delivery to the Processor</p> | <p>1. There was no listing available from the Agency or collection facilities of products shipped to the Processor. However, the Processor provided a listing of shipments of thermostats received by them from the collection facilities for the six-month fiscal period ended December 31, 2010. The listing was obtained in an Excel document via E-mail directly from the Processor. The Processor is the sole company used by the Agency and collection facilities to dismantle and recycle the thermostats collected.</p> <p>a. Non-applicable</p> <p>b. The collection facilities do not count or retain a record of the quantity of thermostats collected and shipped to the Processor. The practice is for each collection facility to ship the thermostats collected to the Processor once they have a full pail or when requested to do so by the Agency as part of a collection sweep.</p> <p>c. For each shipment of thermostats by the collection facilities to the Processor, the Processor's listing provided the quantities for the following thermostat components:</p> <p>(i) Number of mercury thermostats</p> <p>(ii) Number of electronic thermostats</p> <p>(iii) Number of mercury switches</p> <p>(iv) Weight of the plastic components once the unit was dismantled</p> <p>(v) Weight of the metal components once the unit was dismantled</p> <p>d. The Processor's listing indicated the date each shipment was received as well as the corresponding Purolator package identification number.</p> |
| | <p>2. Obtain a listing of all registered processors and ensure that all receivers of product were approved processors.</p> | <p>2. The Processor is the primary and sole recycler of the thermostat units. The Processor ships the mercury containing switches to Aevitas Inc. ("the Disposer") for further dismantling and waste treatment of the mercury. The Processor and the Disposer are the entities endorsed in the program's February 3, 2010 - Final British Columbia Stewardship Plan for Thermostats</p> |

| Testing Procedure 2.0 | To obtain comfort over the accuracy, completeness and existence of end-use of the product collected and the accuracy of the Processor's receipt of weight, volume or quantity of product, test on a sample basis the deliveries of product recovered to their end-use. | |
|---|--|--|
| 3. Randomly select shipments from the Processor's listing and obtain a copy of their invoice or other supporting documentation submitted to the Agency. | 3. Each shipment from the collection facility to the Processor as indicated on the Processor's listing was selected for testing and agreed to the monthly invoices issued by the Processor to the Agency. | |
| 4. Verify that each of the Processor's invoices to the Agency has evidence of the weight, volume or quantity of the product shipped by the collection facility to the Processor. | 4. Each of the monthly invoices from the Processor to the Agency evidenced the quantity of mercury containing switches plus the weight of the plastic and metal components after dismantling. | |
| 5. Compare the total weight, volume or quantity listed on the Processor's invoice or other supporting documentation with the weight, volume or quantity listed on the detailed listing received in #1 and note any discrepancies. | <p>5. The aggregate quantities of mercury containing switches and the weight of the plastic and metal components as reflected on the Processor's invoices for the six-month fiscal period ended December 31, 2010 were compared to the detailed listing.</p> <p>In addition, the Purolator shipment invoices and Package Identification Number ("PIN") were examined and cross-referenced to the Processor's detailed listing to ensure completeness and existence. No discrepancies were noted.</p> <p>Discrepancies: The aggregate weight of the plastic and metal components reflected on the monthly invoices to the Agency did not correspond to the Processor's detailed listing for the months of November 2010 and December 2010. The Processor confirmed that the information on the detailed listing is correct and that the invoices do not agree due to a clerical invoicing error. The weight of the plastic and metal components received were 6.8kg and 7.945kg greater than invoiced.</p> | |

Non-Financial Information Requirement: British Columbia Recycling Regulation 449/2004, Section 8 (2)(e) - The total amount of the producer's product sold and collected and, if applicable, the producer's recovery rate.

| Testing Procedure 3.0 | To obtain comfort over the completeness, accuracy, cut-off and validity of the total product recovered, test on a sample basis, the collection of product recovered. | |
|---|--|----------------|
| Procedures | | Results |
| <p>1. Obtain a listing of thermostat shipments from collection facilities for the period under review with the following details:</p> <ul style="list-style-type: none"> a. The collection facility's name and address b. The date of collection from the facility c. The Processor to which the product was delivered. d. The date of delivery to the Processor. e. The amount of product collected (in units and in weight, where applicable). | <p>1. As indicated in the results of Testing Procedure 2.0 (1), there is no listing from the collection facilities of the product shipped. Accordingly, the same Processor's listing was used for this procedure. The listing contained the following information:</p> <ul style="list-style-type: none"> a. The collection facilities name and address b. No such date available c. All shipments were made to the Processor as indicated in Procedure 2.0(1) d. The date of delivery to the Processor. e. The amount of product collected (in units and in weight, where applicable). | |
| <p>2. Compare the total weight, volume or quantity of product collected as indicated on the Processor's detailed listing to the Agency's annual report.</p> | <p>2. The total weight, volume or quantity of the mercury containing thermostats, electronic thermostats, mercury switches, and plastic and metal components from the Processor's detailed listing agreed to the Agency's annual report.</p> | |
| <p>3. Scan the Processor's detailed listing to ensure that there were no collections that were outside of the Program's reporting period.</p> | <p>3. The detailed Processor's listing was scanned and 1 shipment was received by the Processor on June 29, 2010, which is prior to the formal commencement date of the Program of July 1, 2010. The shipment contained the following quantities:</p> <ul style="list-style-type: none"> a. Mercury containing thermostats - 21 units b. Electronic thermostats - 2 units c. Mercury switches - 35 units d. Plastic components - 600 grams e. Metal components - 600 grams | |
| <p>4. Randomly select collection facility shipments to the Processor and obtain the supporting document (Bill of lading or other support) to verify the quantity of the product shipped.</p> | <p>4. Invoices from the Program's Purolator account were obtained which indicated the PIN and the shipper's and receiver's names. The PIN number and shipper and receiver names on the Purolator invoices were compared to the Processor's detailed listing. All shipments of product exist and no discrepancies were noted. The Purolator invoices do not indicate the quantity of thermostats collected nor do the collection sites track the quantities shipped.</p> | |

| Testing Procedure 3.1 | To obtain comfort over the calculated recovery rate, by product type (where applicable). | |
|--|---|---------|
| Procedures | | Results |
| <p>1. Check the mathematical accuracy of the Calculated Recovery Rate (product collected by the collection facilities divided by the number of thermostats available for collection in the marketplace) and compare the Calculated Recovery Rate to the recovery rate reported by the Agency in the annual report. Note any discrepancies.</p> | <p>1. The Calculated Recovery Rate is not disclosed in the Agency's annual report, however, the information needed to calculate the recovery rate is provided in the annual report. The quantity of thermostats available for collection annually in the Province of British Columbia as stated in the annual report is estimated to be 13,500. This figure is calculated using data obtained from the "Final Consolidated Ontario Municipal Hazardous or Special Waste ("MHSW") Program Plan V. II - June 30, 2009" undertaken in the Province of Ontario. The calculation has been adjusted on a per capita basis for the Province of British Columbia. The mathematical accuracy of the figure of 13,500 was recalculated using the numerical inputs provided by the Agency.</p> | |