



ONTARIO INDUSTRY STEWARDSHIP PLAN FOR MERCURY-CONTAINING THERMOSTATS

FINAL

Submitted by:

Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)
with the support of the Canadian Institute of Plumbing and Heating (CIPH)

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1. OVERVIEW

In accordance with the Waste Diversion Act (WDA) and Waste Diversion Ontario's "Procedures for Industry Stewardship Plans," the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI), with the support of the Canadian Institute of Plumbing and Heating (CIPH), is submitting this Industry Stewardship Plan (ISP) on behalf of manufacturers and distributors responsible for selling mercury-containing thermostats into Ontario.

The ultimate goal in preparing this ISP is to develop and deliver a harmonized program across Canada for the collection and recycling of mercury-containing thermostats. The intention of this ISP is to create a program that satisfies the obligations of the thermostat manufacturers under the Ontario MHSW Program and the British Columbia Recycling Regulation, and then expand that program more fully to a national scope.

The ISP will build on the existing Switch the 'Stat program managed by Clean Air Foundation (CAF), which has focused on thermostat collection from heating, ventilation and air conditioning (HVAC) contractors and wholesalers in Ontario, and will expand to include additional collection channels, such as return-to-retail and individual "send-back" options. The ISP also sets five-year targets for accessibility and collection. Details are provided in the document below.

2. SWITCH THE 'STAT PROGRAM BACKGROUND

In 2006, CAF developed and implemented a pilot program to collect mercury-containing thermostats. This program — Switch the 'Stat — became a permanent, ongoing initiative in 2007. In delivering Switch the 'Stat with the help of more than 1,300 contractors and wholesalers registered in Ontario, CAF provides education and outreach for both the participating homeowners and contractors/wholesalers, as well as free collection containers and shipping for all thermostats collected. The program has been funded by the Ontario Ministry of the Environment, the Ontario Power Authority and by gas utilities (Enbridge Gas Distribution Inc. and Union Gas Limited) that promote the uptake of new energy-efficient programmable thermostats.

In early 2009, CAF, HRAI, CIPH and a number of thermostat manufacturers and distributors discussed the opportunities and value in using the existing Switch the 'Stat infrastructure as the basis for an ISP to meet the obligations of the Ontario MHSW legislation. On April 7, 2009, HRAI submitted a letter to Waste Diversion Ontario (WDO) expressing their intent to file an ISP on behalf of thermostat manufacturers and distributors (see Appendix A).

3. LEGISLATIVE BACKGROUND

The Ontario *Waste Diversion Act, 2002* states that the purpose the Waste Diversion Act (WDA) is to promote the reduction, reuse and recycling of waste and to provide for the development, implementation and operation of waste diversion programs.

Section 25 of the WDA, states “a waste diversion program developed under this Act for a designated waste may include the following:

1. Activities to reduce, reuse and recycle the designated waste.
2. Research and development activities relating to the management of the designated waste.
3. Activities to develop and promote products that result from the waste diversion program.
4. Educational and public awareness activities to support the waste diversion program.”

Under Section 34 of the WDA, on application, Waste Diversion Ontario (WDO) may approve a written plan,

1. if it relates to a designated waste for which the Minister has approved a waste diversion program under Waste Diversion Act section 26; and,
2. Waste Diversion Ontario is satisfied that the plan will achieve objectives that are similar to or better than the objectives of the waste diversion program approved by the Minister.

The remainder of this ISP is divided into sections as detailed in the WDO’s “Procedures for Industry Stewardship Plans” and are cross-referenced accordingly.

In June 2007, the Canadian Council of Ministers of the Environment (CCME) released the *Canada-wide Principles for Extended Producer Responsibility*. The overarching goals expressed in this document are to minimize environmental impacts, to maximize environmental benefits, to promote the transfer of end-of-life responsibility for the product and/or material to the producer and to encourage design for environment.

While recognizing differences in the legislative/regulatory framework and existing programs among jurisdictions, CCME encourages regional or national cooperation in the development of EPR programs. Specific measures undertaken by each jurisdiction are at their discretion, with the goal of effective, efficient, and harmonized implementation.

This ISP strives to build upon the existing program infrastructure of Switch the ‘Stat to deliver a harmonized Canadian program.

4. PROGRAM OBJECTIVES [WDO Procedures for ISPs, Section 5.3(A)]

The objective of this ISP is to operate a residential and commercial collection program for mercury-containing thermostats that encourages the installation of energy-efficient programmable thermostats, while simultaneously diverting older mercury-containing thermostats from landfill. The ISP will expand upon the existing Switch the 'Stat program, which operates in Ontario with more than 1,300 participating HVAC contractors and wholesalers, to include additional collection channels such as return-to-retail and send-back options to increase the accessibility and collection results of the program.

The audience that will be targeted through the ISP is the residential and small institutional, commercial and industrial (IC&I) sector (with "small" defined as a business that has less than five kilograms of mercury-containing waste per month).

5. PROGRAM PARTICIPANTS [WDO Procedures for ISPs, Section 5.3(A)]

Name of the ISP proponent: Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) with the support of the Canadian Institute of Plumbing and Heating (CIPH) on behalf of manufacturers and distributors responsible for selling mercury-containing thermostats into Ontario. Appendix B lists all of the manufacturers and distributors that have sold mercury-containing thermostats into Ontario. Appendix C lists the thermostat manufacturers and distributors that have already signed onto this ISP. HRAI and CIPH will be contacting the manufacturers and distributors listed in Appendix B to notify them about this ISP and, as a result, the list in Appendix C will continue to evolve.

List of key program participants:

- CAF for overall program management and delivery
- HRAI contractors and wholesalers and CIPH wholesalers for primary collection
- Other non-member contractors/wholesalers for primary collection
- Retailers for secondary collection through return-to-retail pilot(s)
- Purolator for shipping
- Aevitas for thermostat dismantling and documenting collection results
- Bethlehem Apparatus for end-market processing of mercury

6. MATERIAL DESCRIPTION [WDO Procedures for ISPs, Section 5.3(C)]

Product Definition

As defined in the MHSW program plan (June 17, 2009 version), “mercury thermostat” means a product that uses a mercury switch to sense and control room temperature through communication with heating, ventilation and air conditioning equipment.

Mercury-containing thermostats contain internal mercury switches (mercury in a sealed glass bulb) that control the flow of electrical current. The weight of the mercury dropping moves the bimetal spring, creating an on/off switching action. Each switch in a thermostat contains approximately 2.5 grams of mercury, and a thermostat can contain between one and four switches, with the average being 1.4 switches per thermostat (based on collection results from Clean Air Foundation’s Switch the ‘Stat program results from April 2006 to May 2009).

While mercury-containing thermostats have been in use for more than 50 years, they are no longer manufactured by the major manufacturers. Honeywell stopped selling mercury-containing thermostats in Ontario in 2006 and Emerson/White Rodgers stopped in December 2008. As well, the government of Canada is working on a risk management strategy that will ban the sale, manufacture and import of all mercury-containing products (excluding lamps and dental amalgam) into Canada by 2012. This ban will guarantee that mercury-containing thermostats are an obsolete material.

Mercury-containing thermostats are commonly replaced by mercury-free alternatives, such as electronic models or non-electronic models that contain snap switches instead of mercury switches. In the last 5–10 years there has been considerable promotion around electronic programmable thermostats in Ontario via utility companies because they provide an energy conservation component by allowing for automatic temperature adjustments.

Lifespan

The designed lifespan of a mercury-containing thermostat is 20–30 years. However, in reality, the majority of thermostats are replaced more frequently than that — on average every 7–10 years — as a result of renovations and/or replacing furnaces and other HVAC equipment.

Available for Collection

Mercury-containing thermostats are an obsolete material and, over time, the amount available for collection will naturally decrease to the point where there will be none left in Ontario homes and businesses. Preliminary estimates vary significantly in quantifying the number of households that may contain thermostats with mercury. For example,

Environment Canada data suggest that the 2003 national annual demand for mercury-containing thermostats was 195,000 units. A study from Enbridge and Union Gas in 2002 estimated that 1.25 million mercury-containing thermostats were in use by natural gas customers in Ontario. In a 2007 HRAI survey of members, contractors estimated that 57 per cent of the thermostat replacements they made involved mercury-containing thermostats, suggesting there may be as many as 2,596,000 thermostats remaining in the existing housing stock. Meanwhile, data from Statistics Canada show that, in 2006, 86 per cent of Ontario homes had thermostats and that 50 per cent of these had programmable thermostats. If the other 50 per cent had mercury-containing thermostats, this implies that approximately 1,958,000 of the 4,555,000 Ontario households had this type of thermostat. Finally, according to section 22.4 of the Draft Final Consolidated MHSW Program Plan V.II (July 8, 2009), there were 19,881 thermostats available for collection in Ontario in 2008.

Given the range in the estimates above, as well as the uncertainty regarding the lifespan of these products in the field, this ISP will undertake a research and development project in Year 1, in the form of a survey, to determine the percentage of Ontario home that still have mercury-containing thermostats and the average rate of removal. These numbers will be used to develop a more accurate estimate of the number of thermostats available for collection each year. The survey will be administered through participating contractors/wholesalers and through the return-to-retail pilot survey data.

In addition to determining a more accurate metric for the number of thermostats available for collection each year, the data from the above-mentioned survey will be used to determine the total number of thermostats available for collection in Ontario and therefore speculate as to the length of time this collection program will need to remain operational. Mercury thermostats are already considered obsolete in Ontario (no new ones being sold into market), but the national Risk Management Strategy will prohibit the sale, import and manufacturer of mercury-containing thermostats by 2012.

Similar collection programs in the United States have included a trigger point to review the need for ongoing collection (e.g., a certain number of years after the last mercury-containing thermostats were sold into a jurisdiction, or when the collection rate is less than a certain percentage (e.g., five per cent or less).

In addition to the survey, this ISP also proposes to collect ALL extracted thermostats throughout Years 1–3, which will allow the program administrators to gather hard data on the actual percentage of thermostats removed from Ontario homes and businesses that contain mercury. To the extent that the program succeeds in covering the Ontario marketplace, the numbers revealed via this collection process will generate a more accurate assessment of the remaining stock than any survey could provide. Furthermore, three years of collection data will also begin to show us what the trend will be, allowing some ability to predict the required duration of the program.

7. PROGRAM INFRASTRUCTURE AND OPERATION [WDO Procedures for ISPs, Section 5.3(D)]

Collection and Diversion Process

The ISP will use the following four collection channels in Year 1:

1. Contractors/wholesalers — removal and collection by contractors/wholesalers, as well as act as drop-off locations for general public
2. Return-to-retail pilots
3. Send-back pilot for remote regions
4. Municipal collection — to be phased out during Years 1 and 2

1. Contractor/wholesaler channel

- This channel will be used as the primary collection channel for the ISP.
- There are already more than 1,300 contractors and wholesalers registered in the Switch the 'Stat program. These participants are widely spread across Ontario, as shown in Appendix D.
- CAF and HRAI will identify and engage additional contractors and wholesalers via letters, advertising in industry publications, and participation in industry meetings (via presentations and tradeshow).
- The Ontario Power Authority's Cool Savings Rebate (CSR) program made it mandatory for CSR participants to participate in Switch the 'Stat. The CSR program is ongoing through 2010, however there is no guarantee that this program or other incentive programs (such as those run by Enbridge or Union Gas) will extend beyond this timeframe. If possible, this ISP will use these programs to leverage participation in Switch the 'Stat.
- Contractors and wholesalers can register for Switch the 'Stat via the program website (www.switchthestat.ca).
- CAF sends registered contractors and wholesalers the following material — a collection container (United Nations approved for shipping), an introductory letter, program instructions, information brochures to leave behind with their customers and a pre-paid courier waybill.
- Contractors remove older mercury-containing thermostats from homes or businesses and replace them with programmable thermostats.
- Contractors place intact mercury-containing thermostats in the provided collection containers.
- Contractors continue to collect thermostats until their containers are full, or until they are requested to return their container during a collection "sweep".

- The full containers are shipped using the provided pre-paid Purolator courier waybill.
- Purolator picks the containers up from the contractor or wholesaler and ships them directly to Aevitas, the recycling facility.
- Purolator and Aevitas have the appropriate certificates of approval from the Ontario Ministry of Environment to transport and receive the mercury-containing thermostats.
- Once at Aevitas, the thermostats are counted, documented, dismantled and recycled, and the number of thermostats collected by each contractor is reported back to CAF on a monthly basis.

For do-it-yourselfers, the ISP will promote the contractors and wholesalers that participate in the program as year-round drop-off locations. The Switch the 'Stat website currently has a map (and will investigate adding a search by postal code function) that allows the general public to locate a participating contractor/wholesaler in their area.

The ISP will also engage retail locations that sell new thermostats to display permanent signage with program information and website to be displayed at the point-of-sale (with new thermostats).

2. Return-to-retail collection pilots

- This channel will be used as a secondary collection channel for the ISP, and will operate as pilots in Year 1 to determine the effective as a permanent collection channel.
- CAF will engage a number of retail locations to participate in timed pilot take-back campaigns.
- A timed campaign, with associated outreach, will increase promotion and participation opportunities.
- In-store signage will be displayed near the new thermostats, at cash, and as a take-away reminder to promote the return-to-retail pilots before the collection weekends to notify customers of the upcoming event.
- The Switch the 'Stat website will also promote the return-to-retail events prior to the actual collection weekends.
- The campaign could be timed to coincide with other energy conservation messages from the participating retailers.
- CAF reps will be in-store to manage the collection of returned thermostats, answer questions and administer a survey to all participants to gather useful information regarding consumer behaviour.

- CAF will work with the participating retailers/manufacturers to determine the feasibility of including a financial incentive (toward the purchase of a new thermostat with the return of a mercury-containing model) for the pilots.

3. Send-back pilots

- This channel will be used as a secondary collection channel for the ISP, and will operate as a pilot project in Year 1 to determine the effective as a permanent collection channel.
- This channel will be provided as an option for Ontarians living in remote areas.
- The Switch the 'Stat website will list a toll-free phone number and an on-line request option where the public can request a shipping container with a pre-paid courier waybill to ship their individual old thermostat directly to Aevitas.
- The ISP will document and track the number of thermostats that come back through this channel to judge effectiveness.

4. Municipal Collection

- In the past, the number of mercury-containing thermostats collected through the municipal channel has been quite low (i.e., in 2007, only two municipalities — Hamilton and Wellington County — collected thermostats for a total of 49 kilograms or 430 thermostats, and in 2006, only three municipalities — Hamilton, Wellington County and Oxford County — collected thermostats).
- From these results, we feel it is reasonable to discourage and phase out the municipal channel as a disposal option for thermostats.
- The ISP will provide collection containers and free shipping for municipal depots that currently take back mercury-containing thermostats; but the goal will be to educate the public that thermostats need to come back through the Switch the 'Stat program via the contractor/wholesaler, return-to-retail and send-back channels.
- The ISP will provide signage for municipal depots to promote the Switch the 'Stat program.
- The goal is to phase out municipal channels as a disposal channel by the end of Year 2.

One hundred per cent of the thermostats collected through the ISP will be recycled and diverted from landfill. All of the thermostats will be sent to the same collection/processing facility, which is Aevitas, in Ayr, Ontario. However, the ISP administrators may also consider contracting with other, equally or more cost-effective suppliers of these services, should they appear.

Accessibility

Because of the obsolete nature of mercury-containing thermostats, the quantities available for collection will decline over time. The ISP, however, will attempt to collect an increasing percentage of the overall (declining) number that is available for collection. In several US states, the legislation examines the need for collection programs 7–10 years after the sale of the mercury-containing products has been discontinued. The last mercury-containing thermostats sold into Ontario by York/Johnson Controls were in 2004, by Honeywell in 2006, and by Emerson/White Rodgers in 2008, so the government of Ontario should be looking to re-assess the need for a thermostat collection program in 2015–2018. If the share of the remaining stock of thermostats in homes and buildings represented by mercury at that time is sufficiently small, targets should be amended and, possibly, the waste diversion task associated with this product may even be considered complete.

1. CONTRACTOR/WHOLESALER CHANNEL — The ISP will continue to engage the more than 1,300 registered contractors and wholesalers, as well as identify and engage additional contractors and wholesalers who have not yet registered for the program via letters, advertising in industry publications, and participation in industry meetings (via presentations and tradeshow). These contractors and wholesalers will provide on-site collection for removed thermostats, as well as act as year-round drop-off locations for members of the general public who want to dispose of a thermostat. The ISP will increase registration by 10 per cent each year.

While there are roughly 3,000 HVAC contractors registered with the Ontario Technical Standards and Safety Authority (TSSA) as “fuels heating contractors”, it is estimated that at least one-third of this number represents companies that are very small (one-person businesses). Many of these contractors are not currently enrolled in the program. This ISP will therefore work to engage wholesaler branches as drop-off points for thermostats because all small contractor businesses will visit at least one wholesaler branch on a regular basis to pick-up supplies. Rather than every one-person business having an individual pail, we will use the wholesaler branches as a point of promotion for the program and will encourage the contractors to use these branches for collection. Having said that, if a one-person business wants to have an individual collection container, the ISP will supply it, along with free shipping.

The table below shows the five-year targets for the number of collection points for the contractor/wholesaler channel.

Year	Number of “Collection Points” for the Contractor/Wholesaler Channel (Participating Contractors, Contractor Branches and Wholesaler Branches)
Baseline (04/08–03/09)	1,332
Year 1	1,466
Year 2	1,613
Year 3	1,775
Year 4	1,953
Year 5	2,000

2. RETURN-TO-RETAIL CHANNEL — The ISP proposes to run return-to-retail events at 10 retail locations in Year 1. We will then review results and increase the number of retail locations in Years 2–5, as appropriate (by at least five locations per year if results show a benefit). Manufacturers report that 85–90 per cent of thermostats are sold through wholesale channels; therefore, we would expect to see proportionate collection results through the contractor/wholesaler channel. However, the ISP will review the collection results achieved in Year 1, and if the proportion of thermostats collected at return-to-retail is higher than expected, we will consider further increasing the number of collection points in this channel in Years 2–5.

3. SEND-BACK COLLECTION — This ISP will run a send-back pilot project for remote areas of the province. We will look to the program model used and lessons learned from a similar program that ran in the state of Maine, which saw a collection rate of approximately seven per cent through their send-back program.

4. MUNICIPAL COLLECTION — WDO data call results from 2007 show that a limited number of thermostats were returned through municipal channels. While the intent of this ISP will be to educate Ontarians that the correct channel to dispose of mercury-containing thermostats is through the contractor/wholesaler channel or via the designated return-to-retail events, we will also supply collection and processing of any thermostats returned to municipal depots, via collection containers and prepaid shipping for a limited amount of time after starting the ISP (during Years 1 and 2 only). The ISP will undertake an education campaign throughout Year 1, so that we should see less municipal collection in Year 2 and none in Years 3–5.

5. OTHER POTENTIAL COLLECTION CHANNELS — In order to deal with any thermostats that may come back via MHSW round-up events, the ISP will provide collection containers and shipping for Years 1 and 2 with educational material that states thermostats should come back through the Switch the ‘Stat program. This approach is similar to what we will do with the municipal channel and should result in reduction and the eventual phase out of thermostats being returned via MHSW round-up events in Years 3–5.

End-markets and Material After-use [WDO Procedures for ISPs, Section 5.3(J) and (K)]

The following steps will be taken to manage the materials recovered through the ISP:

- Once at Aevitas, the thermostats will be counted, documented, dismantled and recycled.
- The glass vial that contains the mercury is removed from the thermostat. The glass vial is crushed and the glass and mercury are separated. The mercury is triple distilled at Aevitas and then sent to Bethlehem Apparatus (in Pennsylvania) for final distillation and re-sale/re-use in products and processes. The glass is crushed, distilled and sent for recycling in fiberglass applications.
- Currently, Aevitas send the metal components from the thermostats to Woznuik Brothers in Cambridge, Ontario for metal recycling, and the plastic components are sent to Durham Shred in Oshawa, Ontario for recycling.
- The plastics recovered from thermostats are mixed types, and therefore best if bailed together then shredded into pellets which can be sold to manufacturers to be used in new products in a 30/70 mix of recycled to new plastics. Additionally the metals found in thermostats are a mix of iron, copper, nickel and aluminum, which all have high re-use/recycling value.

Financing

The ISP will be funded by the manufacturers and distributors that sell and/or import or have historically sold and/or imported mercury-containing thermostats into Ontario.

8. PROMOTION AND EDUCATION [WDO Procedures for ISPs, Section 5.3(I)]

The ISP will expand on existing Switch the 'Stat program resources, such as the website, and the communications pieces for the contractors (program instructions) and the general public (information brochure), as well as develop new resources. Appendix E provides physical examples of the existing Switch the 'Stat program resources. The types of information that will be communicated to participants and the public are why thermostats need to be recycled, risks of mercury in the waste stream, who funds the program, disposal options (i.e., contractor channel, return-to-retail options, send-back), and program contact information for more information.

The types of resources and distribution channels that will be used are:

- Program website — will present comprehensive overview of program, with periodic updates and an up-to-date list of disposal locations (i.e., participating contractors and wholesalers, return-to-retail and mail back options)

- Printed brochures — to be distributed by contractors/wholesalers, at retail locations that sell new thermostats, and at public events (i.e., festivals, Green Living shows, etc.)
- Printed posters — to be displayed at retail locations that sell new thermostats and at public events
- Industry communications via newsletters and industry publications to inform the contractors/wholesalers
- Potential advertising for the general public
- The ISP will contact municipalities (individually or via the Association of Municipalities of Ontario or Municipal Waste Association) to determine opportunities to promote the Switch the 'Stat program on their websites or via their community waste calendars
- Wholesaler, distributor and manufacturer will promote the program to contractors and the general public via their websites, newsletters, signage, etc.
- Wholesalers and distributors will provide on-site promotion and education for the small, one-person contractors via signage and printed information, as well as allowing the contractors to use their collection containers if they want to (instead of acquiring their own collection pail).
- HRAI's existing communications channels — website, newsletters, meetings, email updates, etc.
- HRAI has a feature on the consumer section of its website that provides listings for all member contractors with a "finder" feature — this ISP will add the Switch the 'Stat logo to the listings of program participants
- This ISP will link to other initiatives and programs that HRAI is part of, such as the Refrigerant Management Canada (RMC) program and outreach to the Building Owners and Managers Association (BOMA) and Green Building Council to target the IC&I sector.

Some manufacturers currently provide information on the packaging of new thermostats sold into North America which notifies the customer that their old thermostat may contain mercury, and provides a website (www.thermostat-recycle.org) and toll-free phone number so that customers can find out where and how to properly dispose of it in the United States. This ISP will utilize this existing infrastructure by adding a link to the Ontario program to the existing website and a recording to direct customers to the Ontario program from the toll-free number.

9. COLLECTION AND DIVERSION TARGETS [WDO Procedures for ISPs, Section 5.3(F)]

Targets

In the absence of the R&D work described above (Section 6) to determine the quantity of thermostats available for collection in Ontario, the ISP proposes to exceed the Year 1 target set out in the MHSW plan by the following means: a) increasing the number of thermostats collected through the contractor/wholesaler channel by 10 per cent (from 11,668 in baseline data to 12,850 units in Year 1); b) operating a return-to-retail pilot at 10 locations (assuming 60 units collected per location for 600 units); and c) supporting the municipal collection channel (for 430 units) for an overall Year 1 collection target of 13,880 thermostats (or 19,432 switches or 48.6 kilograms of mercury).

The increase in the contractor/wholesaler channel will take place via:

- Increasing the number of contractors/wholesalers registered for the program;
- Increasing the communications and outreach to the registrants;
- Enforcing active participation in the program;
- Increasing communications to DIYers to use the contractors/wholesalers as drop-off points for thermostats.

At this point, the ISP proposes to continue to increase collection through the contractor/wholesaler channel by 8–10 per cent per year between Years 1 and 5, as well as increase the number of return-to-retail events by five per year, phase out municipal collection (as described above) and establish a send-back channel to gain the collection targets described in the table below.

The existing Switch the 'Stat program is already a very comprehensive program in terms of collection results and accessibility points. This ISP will build on that program success, and will collect ALL thermostats in Years 1–3 to determine the trend in the proportion of the collected thermostats that contain mercury.

The numbers in table below are estimates and have been rounded to the nearest 10. The ISP will gather and report actual data on a number of program metrics, through the following activities:

- Conduct a survey with contractors, wholesalers and participants in the return-to-retail pilots to get a more accurate sense of the total number of thermostats available for collection in Ontario;
- Collect ALL thermostats in Years 1–3 to determine the proportion of collected thermostats that contain mercury;

- Re-evaluate the timing for an ongoing program based on revised numbers for what is available for collection and what has actually been collected in Years 1–5 of the ISP.

Collection Targets — Number of mercury-containing thermostats collected

Year	Contractor/ Wholesaler Channel (average of 8– 10% increase per year)	Return-to- Retail (start with 10 locations and increase by 5 each year)	Other (municipal, send-back) Phase out municipal, to send-back	Total Number of Thermostats	Annual Collection Rate (%)*
Baseline (04/08- 03/09)	11,668	0	430	12,098	61%
Year 1	12,850	600 (10 locations)	430 (municipal)	13,880	70%
Year 2	14,000	900 (15 locations)	500 (½ municipal, ½ send-back)	15,400	77%
Year 3	15,200	1,200 (20 locations)	500 (send-back)	16,900	85%
Year 4	16,400	1,500 (25 locations)	500 (send-back)	18,400	93%
Year 5	17,700	1,800 (30 locations)	500 (send-back)	20,000	100%

*Assuming 19,881 thermostats available for collection per year (based on data in section 22.4 of the Draft Final Consolidated MHSW Program Plan V.II – July 8, 2009)

Monitoring

The quantities collected and diverted as a result of the ISP will be monitored via monthly reporting from Aevitas that will include the number of thermostats collected from specific contractors and wholesalers, as well as collection numbers from the individual return-to-retail events and the send-back channel.

Remedial Actions

If the targets are not met, the ISP will increase communication and enforcement through the contractor/wholesaler channel, as well as examine the results achieved through the return-to-retail and send-back channels and consider increasing the number of events and promotion around the send-back option, if the collection results and feedback show these channels to be effective.

10. AUDIT [WDO Procedures for ISPs, Section 5.3(G)]

To satisfy the audit requirements, the ISP will investigate and employ the following three types of audits:

1. Collection results — the ISP will hire a third-party audit company to verify the data recorded by the ISP are accurate.
2. Vendor standards — the ISP will ensure that the transporter and the processors/recyclers that are used for the ISP all have the appropriate certificates of approval and/or other documentation, to ensure they are qualified to provide the service required to an appropriately high standard.
3. Finances — the ISP will undertake a third-party financial audit of program expenses and revenue to ensure transparency.

Required reporting from these three audits will be supplied annually to WDO, along with the annual report of program results. The information reported to WDO will also be made publicly available on the program website.

11. CONTINUOUS IMPROVEMENT AND RESEARCH AND DEVELOPMENT ACTIVITIES [WDO Procedures for ISPs, Section 5.3(H) and (L)]

In order to continually improve the performance of the ISP and understanding of the product lifespan, the ISP will undertake a research and development project in Year 1. This project will take the form of a survey to determine the percentage of Ontario homes that have mercury-containing thermostats and the average rate of removal to reflect an accurate measure of the number of thermostats available for collection each year. The survey will be administered through participating contractors/wholesalers and through the return-to-retail pilot survey data.

In addition to the survey, this ISP will also collect ALL thermostats throughout Years 1–3 to gather hard data on the percentage of thermostats removed from Ontario homes and businesses that contain mercury.

Through this research, the ISP will be able to identify the quantity of thermostats remaining in Ontario homes and the average timeframe for those to become available for collection. From the information gathered, we will develop a model (based on the model CAF developed for the national vehicle switch program, which is also an obsolete product with a rate of continuous decline) that will estimate annual rates of quantities available for collection. We will be able to use this data to revise the ongoing collection and diversion targets for the program.

Finally, the ISP will explore the opportunity to increase the number of thermostats available for collection in a short amount of time by possibly employing a public

campaign that encourages Ontarians with mercury-containing thermostats to replace them with programmable thermostats to ensure the mercury is managed properly through the ISP and to improve energy efficiency and decrease energy use.

12. CONSULTATION PROCESS [WDO Procedures for ISPs, Section 5.3(B)]

On October 12, 2009, CAF posted the final draft version of the “Ontario Industry Plan for Mercury-containing Thermostats” on our public website at www.summerhillgroup.ca/eng/impact/programs/switch-the-stat-on-plan.php.

On October 16, 2009, a notice of the draft ISP and the associated webinar consultation was sent to a list of 87 stakeholders, which included representatives from municipal, provincial and federal government departments, thermostat manufacturers and distributors, retailers, recyclers/material processors, environmental non-governmental organizations and stewardship agencies, such as WDO and Stewardship Ontario.

Stakeholders were also informed that if they were unable to participate in the consultation at the specified date and time, they were invited to contact CAF to make alternative arrangements to share their feedback, or they could submit written comments to the plan until November 16, 2009.

The consultation webinar was held on Wednesday, October 28, 2009 from 1:00–3:00pm, with a total of 24 individuals participating. The breakdown of representatives by stakeholder sector is as follows — nine from municipal government, five from thermostat manufacturing or distributing companies, three from environmental consulting companies, two from stewardship agencies, two from the retailer sector, one from a recycling company, one from the federal government and one from a power utility.

The webinar included a PowerPoint presentation that provided an overview of the ISP, as well as opportunities to ask questions and provide feedback to the ISP either via the associated conference call or through the webinar chat function. The PowerPoint presentation from the webinar is provided in Appendix F. Appendix G includes a summary of the questions, comments and feedback that were received through the webinar, and responses to that feedback.

In addition to the webinar, HRAI and CAF met with two representatives from the WDO on October 30, 2009 to review the draft ISP. The comments received from WDO are included in Appendix H, along with responses to that feedback.

HRAI and CAF also met with the WDO Public Affairs Committee (PAC) on December 3, 2009 to provide an overview of the ISP and answer any questions the committee had

about the promotion and communications aspects of the ISP. The PowerPoint presentation from this meeting is provided in Appendix I.

Finally, the questions and comments received from the participants in the webinar, as well as via the WDO meeting and the WDO PAC meeting, have been incorporated throughout the ISP to reflect the feedback we received and to provide greater clarification about how the ISP will operate.

13. TRANSITION PLAN FROM STEWARDSHIP ONTARIO TO ISP [WDO Procedures for ISPs, Section 5.3(E)]

Because this ISP is going to build on the existing Switch the 'Stat program, there will be little to no start-up time required to have the ISP fully operational. If this ISP is approved by January 30, 2010, the ISP will begin operating as described above by March 2010; thereby superseding the implementation of the MHSW program, which means there will be no need for a transition plan from Stewardship Ontario.

The ISP education and outreach is already ongoing to contractors and wholesalers, so they will be fully aware of the ISP before the MHSW program starts. In terms of municipalities that are collecting or receiving mercury-containing thermostats, as described above, the ISP will supply collection containers and shipping throughout Years 1 and 2, along with posters and information to educate homeowners to use the Switch the 'Stat program, with the intention to have municipal collection phased out by Years 3–5.

Appendix A — HRAI Letter to WDO Expressing Intent to File an ISP on Behalf of Thermostat Manufacturers and Distributors



April 7, 2009

Glenda Gies
Executive Director
Waste Diversion Ontario
45 Sheppard Avenue East
Suite 920
Toronto, Ontario M2N 5W9

Dear Ms. Gies,

Re: Industry Stewardship Plan (ISP) for the diversion of mercury-containing thermostats in Ontario

Please accept this letter and supporting documentation as the notice of intent from Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) to submit an Industry Stewardship Plan (ISP) for the diversion of mercury-containing thermostats in Ontario.

HRAI is Canada's largest Heating, Ventilation, Air Conditioning and Refrigeration (HVACR) industry trade association, representing hundreds of industry manufacturers and distributors and over 1,000 HVACR contractors across the country. HRAI's membership also includes all of the companies that would be designated by WDO as "stewards" in relation to mercury thermostats.

As noted in the attached summary outline for the proposed ISP, HRAI intends to work with Clean Air Foundation to use the existing *Switch the 'Stat* program as the basis for the ISP. The current *Switch the 'Stat* program employs outreach and collection through the HVAC contractor and/or wholesaler channel as the primary means of collection. In addition to this channel, the ISP will explore opportunities to expand to additional collection channels, such as return-to-retail and/or mail-back options. HRAI has been an active partner in the *Switch the 'Stat* program since it began in 2006 and feels confident that this model presents an efficient and effective system for collecting and recycling mercury-containing thermostats.

Both HRAI and Clean Air Foundation have been actively participating in the Municipal Hazardous or Special Waste Plan Development Working Group on Mercury-Containing Switches and Measuring Devices, and will continue to do so as necessary. Given the success of the existing *Switch the 'Stat* program, however, HRAI and Clean Air

Heating, Refrigeration and Air Conditioning Institute of Canada | 2800 Skymark Avenue, Building 1, Suite 201 | Mississauga, Ontario L4W 5A6
Tel: 1-800-267-2231 or 905-602-4700 | Fax: 905-602-1197 | E-mail: hraimail@hrai.ca | Website: www.hrai.ca

Foundation are confident that the proposed ISP will set and meet achievable, meaningful diversion targets.

Also included with this letter is a summary of the proposed consultation to be carried out during the development of the ISP. As specified in WDO's "Procedures for Industry Stewardship Plans", HRAI and Clean Air Foundation will consult with the parties listed in section 5.2, as well as additional parties, such as contractors, wholesalers, homeowners, business owners, and retailers, to ensure that the views of those who may be affected by the implementation of the ISP are taken into account.

On behalf of HRAI, the member companies that manufacture and/or distribute mercury-containing thermostats and Clean Air Foundation, thank you for the opportunity to submit this letter of intent. We look forward to working with you through the development of our ISP.

Sincerely,



Martin Luymes
Vice President

cc HRAI Board of Directors
Greg Butt, White-Rogers, Chair of HRAI Controls Product Section
Krista Friesen, Clean Air Foundation

SWITCH THE 'STAT INDUSTRY STEWARDSHIP PLAN

SUMMARY OUTLINE

1. Introduction to the Ontario Switch the 'Stat Program — Why have a distinct program for mercury-containing thermostats?
2. The Stewards
 - a. Who are the parties to the Switch the 'Stat program
 - b. Roles and responsibilities
 - c. Environment and economic objectives
3. Switch the 'Stat Program Plan Overview
 - a. Background
 - b. General program description
4. Baseline Data: The Historic Use of Mercury-containing Thermostats in Ontario
 - a. Mercury use in thermostats
 - b. Baseline estimate of the number of units in-market based on current in-home survey data from HVAC contractors
 - c. Estimated number of units available for collection annually
5. Existing Switch the 'Stat Program Activities in Ontario
 - a. Current mercury-containing thermostat recovery in Ontario
 - b. The description of the processing/recycling of recovered mercury-containing thermostats
6. Description of the Ontario Switch the 'Stat Program
 - a. Collection channels
 - b. Transportation and consolidation
 - c. Processing
 - d. Promotion and education
 - e. Research and development
7. Performance Targets
 - a. Accessibility
 - b. Recycling targets
 - c. Program tracking mechanisms

SWITCH THE 'STAT INDUSTRY STEWARDSHIP PLAN

SUMMARY OF PROPOSED CONSULTATION

As specified in Waste Diversion Ontario's "Procedures for Industry Stewardship Plans", HRAI and Clean Air Foundation will consult with the parties listed below to ensure that the views of those who may be affected by the implementation of the ISP are taken into account.

- The Industry Funding Organization for the designated material;
- The WDO Municipal-Industry Program Committee (MIPC) for the designated material;
- The WDO Municipal Affairs Committee (MAC), including MAC's recommendations for appropriate consultation with municipalities;
- Ontario municipalities, as appropriate;
- The WDO Public Affairs Committee (PAC);
- Environmental non-government organizations;
- Those members of the public who are consumers of the products to be recovered under the ISP, such as home and/or business owners;
- The Ministry of the Environment;
- HVAC contractors and wholesalers;
- Retailers; and,
- Utility companies that offer incentives toward the installation of new programmable thermostats.

The consultations within WDO and the municipal and provincial governments will take place as meetings or conference calls. The consultations with home/business owners, contractors, wholesalers, retailers and utility companies will take place in the form of surveys or telephone conversations.

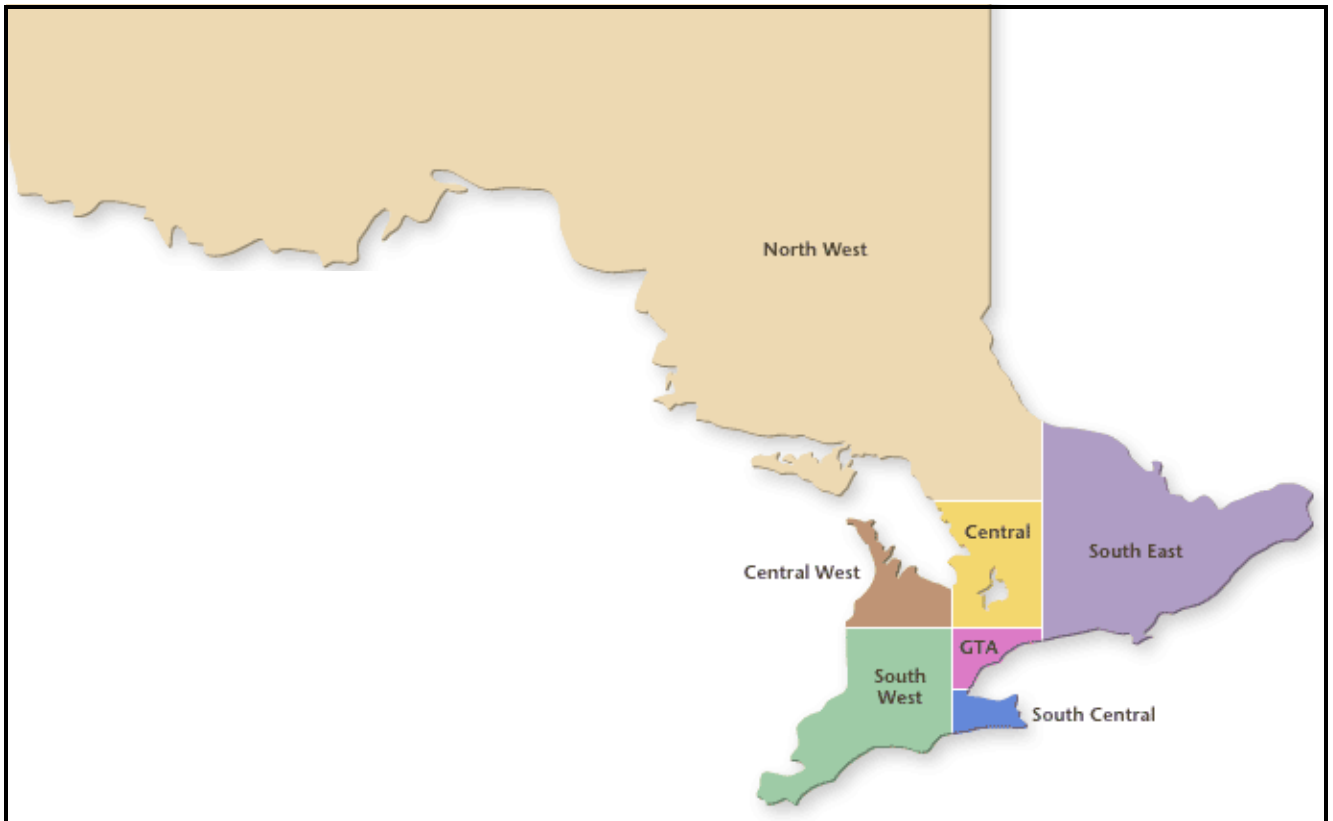
Appendix B — List of All Manufacturers and Distributors Responsible for Selling Mercury-containing Thermostats into Ontario

Bard Manufacturing Corporation
Burham Holdings, Inc.
Carrier Corporation
Chromalox
Climate Master, Inc.
Crane Company
Emerson Electric Corporation/White-Rodgers
Empire Comfort Systems
General Electric Corporation
Honeywell Corporation
ITT Corporation
York/Johnson Controls
Lear Siegler (Original Charter Corporation)
Lennox International Inc.
Lux Products
McQuay International
Nordyne Corporation
PSG Controls, Inc.
Rheem Manufacturing Company
Sears Holdings
Taco, Inc.
Thomas & Betts Corporation
TPI Corporation
Trane Residential Systems
Vaillant Corporation
W. W. Grainger
Uponor, Inc.

**Appendix C — List of Mercury-containing Thermostats Manufacturers and Distributors
Signed-on to Participate in the Industry Stewardship Plan**

Emerson Electric Corporation/White-Rodgers
Honeywell Corporation
York/Johnson Controls

Appendix D — Geographic Listing of Contractors and Wholesalers that Participate in the Existing Switch the 'Stat Program



North West Ontario

Bleazard Valley	Ramsay's Home Comfort
Cochrane	Gerry's Enterprises
Cochrane	Polar Air
Dryden	Superior Plumbing & Heating
Elliot Lake	J P Martin Heating Ltd.
Kapuskasing	L R Kennedy Heating
Keewatin	Andy Morrell Mechanical Services Ltd.
Kenora	Parkland Plumbing
Kenora	R K Services
Kirkland Lake	North Star (1984)
Lively	North Shore Residential Plumbing & Heating
Mattawa	Northern Energy Systems
Mindemoya	Pro Gas Energy Services
New Liskeard	Fern Breault Heating & Son
New Liskeard	Packard Plumbing & Heating Ltd.

North Bay	Dave's Heating & Cooling
North Bay	Gerry's Heating
North Bay	Independent Supply
North Bay	K R B Mechanical
North Bay	Noll ClimateCare
Oxdrift	Five Star Heating
Powassan	Burnies Heating And Air Conditioning
Sault Ste. Marie	Blue Flame Gas Ltd.
Sault Ste Marie	S & T Group
Sault Ste Marie	Superior Home Comfort Ltd.
Sault Ste. Marie	Henderson Metal Fabricating Co. Ltd
Sault Ste. Marie	Wardlaw Fuels (Algoma) Inc.
Sudbury	Campeau Heating, 1594655 Ontario Limited
Sudbury	Castle Plumbing And Heating
Sudbury	Nauss Plumbing & Heating Inc
Sudbury	Northern Air & Mechanical Inc.
Sudbury	Smania Plumbing, Heating & A/C
Sudbury	Union Energy Inc.
Thornloe	Comfort Heating & Air Cond
Thunder Bay	ABC Gas Services
Thunder Bay	All Temp Heating & Cooling Systems
Thunder Bay	Buhler Mechanical Service Ltd.
Thunder Bay	Excel Sheet Metal Lakehead Ltd.
Thunder Bay	Mr. John Raynak
Thunder Bay	Prestige Home Comfort
Thunder Bay	R H W Enterprises Co. Ltd.
Thunder Bay	Robert's Plumbing & Sheet Metal Inc.
Thunder Bay	Union Energy (North/Western Ontario)
Timmins	Northern Mechanical Services Inc.
Timmins	Tisdale Plumbing & Heating Ltd
Val Caron	Independent Energy Services
Val Caron	Marcel's Heating & Sheet Metal

Central Ontario

Alliston	Tecumseth Heating & Air Inc.
Angus	Mark A Stewart
Badjeros	Zeke Air Heating & Cooling
Bancroft	Eco Gas HVAC & Fire Places Inc.

Bancroft	Whitfield Plumbing & Heating
Barrie	A/C Furnace
Barrie	Ardent Heating, Air Conditioning and Water Treatment
Barrie	Barrie Heating & Air Conditioning
Barrie	Climate Air Heating & Air Conditioning
Barrie	Complete HVAC Services Inc.
Barrie	Custom Comfort ClimateCare
Barrie	Environmental Systems Corporation
Barrie	FM Heating & Air Conditioning
Barrie	Homebridge Canada
Barrie	Innisfil Air Conditioning Ltd.
Barrie	Looby Mechanical Inc.
Barrie	MAK Mechanical Ltd.
Barrie	Roper Controls
Barrie	Sears Canada Inc.
Barrie	Sears Indoor Clean Air Services
Barrie	The Sarjeant Co. Ltd.
Barrie	Yanch Heating & Air Conditioning (Barrie) Ltd.
Beaverton	Link Heating & Air Conditioning Limited
Bobcaygeon	British Empire Fuels Inc.
Bracebridge	Muskoka Air Systems
Bracebridge	P. Mirabelli HVAC Contracting
Cameron	Southview Heating & Air
Churchill	Scott's Heating & Air Conditioning
Coldwater	G O Heating
Collingwood	Four Seasons Mechanical Services Incorporated
Collingwood	Northern Comfort & Mechanical Inc.
Ennismore	Sayer Heating Ltd.
Fenelon Falls	Coulter Heating & Air Conditioning
Gravenhurst	Gravenhurst Plumbing, Heating & Electrical Co. Ltd
Gravenhurst	Stevenson Plumbing & Electric
Gravenhurst	Tech Air Systems
Haliburton	Walker's Heating & Cooling Systems
Huntsville	Exl-Aire Mechanical Ltd.
Huntsville	Preston Mechanical
Huntsville	Shaw Heating
Huntsville	Tebby Air Conditioning & Heating Ltd.
Innisfil	Alcona Heating & Air

Innisfil	Blue Flame (Barrie) Ltd.
Innisfil	S & L Mechanical
Innisfil	Services Plus
Keswick	B M S & Sons Air Conditioning & Heating
Keswick	C Reddy Refrigeration Inc.
Keswick	Comfort Heating & Air Conditioning
Lindsay	Northmore Fuels
Lindsay	The Climate Controllers
Midhurst	Climatize Heating & Air Conditioning Ltd.
Midland	Fred Hook Limited
Midland	Garthside Ltd.
Midland	Tom Downer Ltd.
Minden	Thermoshell
Novar	Genco Mechanical
Orillia	B & B Plumbing & Electrical Heating & A/C
Orillia	Eric Cockburn Refrigeration
Orillia	Frost Heating & Air Conditioning
Orillia	Mid North Mechanical
Orillia	Orillia Natural Gas Ltd.
Orillia	Shakell Heating & Cooling Contractor
Parry Sound	Bruce Clarke Heating & Appliances
Pefferlaw	Erwood Air Installation & Service
Pembroke	J W HVAC Services Ltd.
Pembroke	Kool Temp Service / Valley Refrigeration
Pembroke	Temp-Tech Refrigeration, Heating & Air Conditioning
Penetanguishene	H S St. Amant & Sons
Port Perry	Murczek Mechanical
Port Perry	Quality Plus Heating & Air Conditioning
Port Sydney	Source One Mechanical
Singhampton	Campbell Mechanical
Sunderland	Harold's Heating
Wasaga Beach	Nottawasaga Mechanical

Central West Ontario

Allenford	Ron Nickason Ltd.
Heathcote	Clarksburg Contractors Limited
Lucknow	Cliff's Plumbing & Heating, O/B Cliff Mann Mechanical Ltd.
Markdale	Northern Heating & Ventilation

Maxwell	B & R Stove Shoppe
Meaford	Air Star Mechanical Ltd.
Meaford	The Anderson Group
Mildmay	JSW Heating, Cooling & Refrigeration
Neustadt	Plantz Heating & Air Conditioning Inc.
Owen Sound	AAA Air Conditioning Inc.
Owen Sound	Cook's Plumbing & Heating
Owen Sound	Fluker Electrical Mech Contractors
Owen Sound	Gowing Gas Plus Inc.
Owen Sound	Ken Philp Plumbing & Heating
Owen Sound	Riddell Contracting Ltd.
Owen Sound	The Furnace Guy
Port Elgin	South-Port Mechanical Inc.
Priceville	Sandy Hamilton Heating
Tara	Air-Tech Mechanical
Walkerton	Emke Schaab Climatecare
Walkerton	Troy's Heating & Cooling
Warton	Keith Hepburn Plumbing

South West Ontario

Acton	A-Z Comfort Air Service
Alvinston	Hayter Plumbing & Heating Ltd.
Amherstburg	First Choice Heating & Cooling
Amherstburg	Morrell Heating & Cooling Inc.
Arkona	Mid Lam Appliance Service Inc.
Aylmer	Koolen Electric
Aylmer	Natural Resource Gas Limited
Ayr	HC Matcon
Belle River	Iako Air
Belwood	Upper Grand Refrigeration Heating & Air Conditioning
Blenheim	Handy Bros. ClimateCare Inc.
Blenheim	Trudgen Heating & Cooling Ltd.
Brantford	A 1 Smart Choice
Brantford	Air Climate Handler
Brantford	Air GT
Brantford	BML Hearth & Home
Brantford	Braneida Mechanical Service Ltd.
Brantford	Comfort Plus Heating & Air Conditioning

Brantford	Easton Mechanical Contracting Ltd
Brantford	Gary Service Corp.
Brantford	Grand Mechanical Solutions Inc.
Brantford	Indoor Air Technologies
Brantford	K & S Climate Control
Brantford	Mead Mechanical
Brantford	Modern Heating Brantford Limited
Brantford	Perras Mechanical Services Ltd.
Brantford	Renway Heating & Cooling (Div. of Renway Oil Inc.)
Brantford	Roger's Service Electrical & Mechanical Inc.
Brantford	SDC Brantford Inc. O/A Winners Home Central
Brantford	Union Energy (Brantford)
Breslau	B R C Mechanical Inc.
Breslau	Gerry Kuchma Mechanical
Brucefield	Rathwell Refrigeration
Burgessville	Krygsman Mechanical Contracting Ltd.
Caledonia	Colbert Heating & Cooling
Caledonia	Northern Comfort Solutions
Caledonia	Quality Home Services
Caledonia	Thompson Heating & Air Conditioning
Cambridge	Air Core Ltd.
Cambridge	Batista Heating & Air Conditioning Ltd.
Cambridge	Boehmers Cronin Emery Service Experts
Cambridge	Craft Air Mechanical Services
Cambridge	Cronin - Verheaul Heating & Air Conditioning Ltd.
Cambridge	Doug's Heating & Air Conditioning Ltd.
Cambridge	Emerson Mechanical
Cambridge	Fireside Home Comfort Inc.
Cambridge	G B Heating and Cooling Ltd.
Cambridge	Gamble's Heating & Air Conditioning
Cambridge	Gillsons Heating & Cooling Inc.
Cambridge	J A S Heating Cooling Refrigeration Ltd.
Cambridge	J W Heating John F. Welfing Burner Service Ltd.
Cambridge	Ozone Control Inc.
Cambridge	Ray Electric Ltd.
Cambridge	Reliance Home Comfort (Tricities)
Cambridge	Ross Heating & Air Conditioning
Cambridge	Sears Canada Inc. (005072)

Cambridge	Serenity Air
Cambridge	Solution One Heating and Cooling
Cambridge	Union Energy (Cambridge)
Carlisle	Dryden Mechanical Ltd.
Chatham	Absolute Comfort Heating & Cooling Inc.
Chatham	Cook 4 Comfort
Chatham	Jack William Foley Heating and Cooling Ltd.
Chatham	Mac Ball & Sons
Chatham	McLaughlin & Sons Heating & Cooling
Chatham	Postma Heating and Cooling Inc.
Chatham	Q P S Mechanical Contractors Inc.
Clinton	Wise Energy Centre
Dorchester	Comfort Zone Services Ltd.
Dorchester	Marco Heating Ltd.
Dresden	McFadden Heating & Cooling
Drumbo	Baker Sheet Metal Ltd.
Essex	Roy Heating and Cooling Inc.
Essex	S X Heating & Cooling
Exeter	Town & Country Home Comfort
Fergus	Bush Enterprise
Fergus	Geo-Solar Systems
Fergus	Hartwig Heating & Air Conditioning
Fisherville	Hunsingers
Flamborough	Boonstra's One Hour Heating & Air Conditioning
Forest	Jack Scott Heating & Air Conditioning
Glencoe	Allan Heating & Sheet Metal
Goderich	Edward Fuels Ltd.
Goderich	Hoffmeyer Plumbing & Heating
Goderich	Mr. Heat n' Cool
Goderich	T Worsell Plumbing & Heating Ltd.
Grand Bend	Bob Case Plumbing & Electric Ltd.
Guelph	Air Wave Heating & Cooling
Guelph	Ensing Heating & Air Conditioning Ltd.
Guelph	Hall's Heat & Cool Inc.
Guelph	Henk Oosterveld Heating & Air Conditioning Inc.
Guelph	Integrity Refrigeration Inc
Guelph	J F Hall Heating & Cooling
Guelph	Regal Air (Guelph) Ltd.

Guelph	Shuh Appliances Ltd.
Guelph	Superior Propane
Hagersville	Wardell's TV & Appliances
Heidelberg	Bauman Mechanical Systems
Hensall	Durand Heating & Cooling
Ingersoll	All Care Energy
Ingersoll	M B H Mechanical
Ingersoll	Paul Davies Plumbing, Heating, Sheet Metal
Jarvis	W J Elliott & Son Ltd.
Kingsville	Wayne Warkentin Plumbing, Heating, Air Conditioning
Kitchener	Air Pro Services
Kitchener	Aire One Heating & Cooling - Kitchener/Waterloo
Kitchener	Arthur's Heating & Cooling
Kitchener	Capital Plumbing & Heating (K-W) Ltd.
Kitchener	Conestogo Mechanical
Kitchener	G F Mechanical
Kitchener	Imperial Comfort Heating and Cooling
Kitchener	Independent Supply
Kitchener	IronClad Home Comforts Specialists
Kitchener	Kitchener Utilities
Kitchener	Rob Hart Mechanical Inc.
Kitchener	Sears Canada Inc.
Kitchener	Stemerink Services Ltd.
Kitchener	Summer Breeze Heating & Air Conditioning Limited
Langton	Sinnaeve Heating Limited
LaSalle	J E Murphy Heating & Air Conditioning
Leamington	Ciacelli Mechanical Contractors Ltd
Leamington	D H & C Mechanical
Leamington	Father & Son Heating & Air Conditioning
Leamington	Grossi Plumbing & Heating
Leamington	Harder's Heating & Cooling
Leamington	Policella Plumbing & Heating
Linwood	M L K Services
Listowel	B R C Appliance, Heating & Air Conditioning
Listowel	Bostech Mechanical
Listowel	Cross Heating & Air Conditioning Ltd.
Listowel	J E Gabel Electric Plumbing & Heating Ltd.
London	Accu-Heat/Cool Heating and Air Conditioning Inc.

London	Air Conditioning Services (499706 Ontario Inc)
London	Air Design Services
London	B H Turner Heating & Cooling Ltd.
London	Blake Mechanical Services Inc.
London	Boyer Heating & Cooling
London	Builder Direct Group (My Fireplace)
London	Builders Choice Air Systems Ltd.
London	C A P O R Windows & Doors Inc.
London	Canadian Comfort Heating & Cooling Systems
London	Carver Sheetmetal Inc.
London	Climate Control - A Division of Toromont Industries Ltd.
London	Crawford Air Ltd.
London	Dean Mechanical Services
London	Design Heating Systems
London	E Z Comfort Services Inc.
London	Forest City Gas
London	Fournier Sheet Metal Heating & Air Conditioning Co.
London	H A P Mechanical Services Ltd.
London	H V A C Plus Inc.
London	Hessey Bros.
London	Holmes Heating & Cooling Ltd.
London	Home Comfort Centre
London	Homes Mechanical
London	Innovative Energy Systems
London	J C's Contracting
London	Jeffrey Green Heating & Air Conditioning
London	L D DuCharme Systems Inc.
London	M & K Climatecare
London	My Fire Place
London	NOVA H.V.A.C. Systems
London	Nutech Brands Inc.
London	Orzech Heating & Cooling
London	Poulsen Heating & Air Conditioning Inc.
London	Reliance Home Comfort (Division of Union Energy)
London	Responsive Multi-Tech Services Ltd.
London	Ridgewell Refrigeration Ltd.
London	Roy Inch & Sons Service Experts
London	Royal Air Conditioning & Heating Ltd.

London	S W Atchison Plumbing & Heating
London	Salmon Plumbing & Heating
London	Sears Canada Inc.
London	Sears Indoor Clean Air Services
London	The Gas Man Inc.
London	Thermoshell/Bluewave Energy Ltd.
London	Transcool Inc
London	Westlake Heating & Cooling
London	Zed Air Heating & Air Conditioning
Maidstone	Weir Brothers Heating-Cooli
Napanee	McKeown and Wood Limited
New Dundee	Corestar Mechanical Ltd.
New Hamburg	Boshart Electric Ltd.
New Hamburg	Colonial Air Inc.
Newbury	C P E Services Ltd.
Oldcastle	Eagle Heating & Cooling
Oldcastle	Select Mechanical Inc.
Otterville	A1 Trades Mechanical
Paris	Crystal Heating and Air Conditioning
Paris	J D Collings Heating & Air Conditioning
Paris	Radcliffe Service
Paris	Wise Heating & Air Conditioning
Petrolia	Egan Heating & Cooling
Plattsville	A 1 Kool Heating & Air Conditioning Inc.
Point Edward	Lambton ClimateCare
Point Edward	Sears Parts and Services:C005776
Port Stanley	T A K Mechanical
Putnam	Forest City Mechanical Inc.
Ridgetown	R M Heating & Cooling
Ridgetown	Total Comfort Heating & Cooling Ltd.
Rodney	Mark's Mechanical
Sarnia	AAR-ON Heating & Cooling
Sarnia	Abram Refrigeration & Systems
Sarnia	K & V Sheet Metal Inc.
Sarnia	Reliance Home Comfort (Division of Union Energy)
Sarnia	Sarnia Heating & Electric Co. Ltd.
Sarnia	Saucier Plumbing & Heating Ltd.
Sarnia	W J Barnes Ltd.

Sarnia	Zanki Mechanical Inc.
Scotland	A & R Bonham Heating & Air
Seaforth	Seaforth Plumbing & Heating Inc.
Simcoe	Brody's Mechanical Services Inc.
Simcoe	Causyn Cooling & Heating
Simcoe	D A Walker ClimateCare
St Marys	Cubberley Plumbing
St. Clements	Richmond Heating & Air Conditioning
St. George	Alrite Home Comfort Ltd.
St. Jacob's	Carter-Grant Mechanical Systems Inc.
St. Jacob's	Total Home Energy Systems
St. Thomas	Ambrose Plumbing & Heating Ltd
St. Thomas	Cam's Heating & Air Conditioning
St. Thomas	Coad Heating and Air Conditioning Ltd.
St. Thomas	Donrich Mechanical Services
St. Thomas	Elgin Heating & Cooling
St. Thomas	Foley's Heating and Air Conditioning
St. Thomas	Gastech Solutions
St. Thomas	Hugh's Climatecare
St. Thomas	L D DuCharme Systems Inc.
St. Thomas	Silcox Heating & Cooling
Stratford	Advanced Air
Stratford	Brown ClimateCare
Stratford	Buchanan & Hall
Stratford	Culliton Brothers Ltd.
Stratford	Dave Davies A/C, Heating & Refrigeration
Stratford	Prestige Energy Services
Stratford	W J Holman Plumbing & Heating Ltd.
Strathroy	Dave Earhart Plumbing, Heating & Cooling
Strathroy	John's Heating & Cooling
Strathroy	Hamilton Heating & Cooling
Strathroy	Laskey's Services and Ron Smith Well Drilling
Strathroy	Milliken Plumbing & Heating Ltd.
Strathroy	Ralph Southern Heating
Tecumseh	Syles Mechanical Services Ltd
Tecumseh	Tricon Electrical/Mechanical
Thamesville	Scott Mechanical
Thorndale	D J D Heating & Cooling Ltd.

Thorndale	Graham Heating and Cooling
Tillsonburg	Depaepe's Mechanical
Tillsonburg	G C Lounsbury Inc.
Tillsonburg	Moe's Sheet Metal
Tillsonburg	Oldridge Heating & Cooling
Wallaceburg	Arctic Heating & Cooling
Waterloo	4 Seasons Heating & Cooling
Waterloo	A T N Mechanical Systems Ltd.
Waterloo	Afterglow Ltd.
Waterloo	Air Expert Home Comfort Inc.
Waterloo	Al Dunn Heating - Air Conditioning - Fireplaces
Waterloo	Alex Kenny Enterprises
Waterloo	All Weather Air Systems Inc.
Waterloo	Alpha Air Heating & Cooling Inc.
Waterloo	Bast Home Comfort Inc.
Waterloo	Delta Air Systems Ltd.
Waterloo	Earth FX Energy Inc.
Waterloo	Markle Heating & Cooling Inc.
Waterloo	Reitzel Heating & Sheet Metal Ltd.
West Lorne	Pollard Heating & Cooling
West Montrose	Advanced Geo-Thermal Systems Inc.
Windsor	Affordable Heating & Cooling Inc.
Windsor	Al Dobson Heating
Windsor	Arko Mechanical
Windsor	Blue Flame Heating and Cooling
Windsor	Bryant Heating & Cooling Service Experts
Windsor	Chapmans Heating & Cooling Ltd.
Windsor	Fahrhall Mechanical Contractors
Windsor	Fauteux Heating & Cooling
Windsor	Forced Air Heating & Cooling Inc.
Windsor	G & J Air Conditioning
Windsor	Ideal Heating & Cooling Ltd.
Windsor	Kenwil Services Ltd.
Windsor	LaMantia Heating And Cooling Inc.
Windsor	Lisinski's Mechanical Services Inc.
Windsor	LK Metal Products
Windsor	Martin's Sheet Metal
Windsor	Northstar Mechanical Services

Windsor	Pro Trades
Windsor	R S Craig Plumbing & Heating Ltd.
Windsor	S Candido Company Limited
Windsor	Sears Canada Inc.
Windsor	Total Heating & Cooling
Windsor	Union Energy (Windsor)
Windsor	Urban Heating & Cooling
Windsor	Van Watts Mechanical
Windsor	Volt Air Electric Heating & Air Conditioning Ltd.
Wingham	Montgomery's Comfort Centre Ltd.
Woodstock	Glenile Electric Ltd.
Woodstock	Jim Shipp Plumbing & Heating Ltd.
Woodstock	Lloyd's Electric Co. Ltd.
Woodstock	Mike's Electric Ltd.
Woodstock	Rick's Heating & Cooling Service
Woodstock	The Furnace Guy - Heating & Cooling
Wyoming	A Village Fireplace Shop Ltd.
Wyoming	Absolute Home Comfort
Wyoming	H E A R Solutions Heating and Cooling
Wyoming	Moore Heating & Cooling Ltd
Zurich	Geo - Teck Heating & Cooling Limited

South Central Ontario

Beamsville	Konkle Plumbing & Heating Inc.
Binbrook	Indoor Weather Controls (Hamilton) Inc.
Crystal Beach	Fretz Heating & Air Conditioning
Dundas	Bill Welmers & Sons Heating & Air Conditioning
Dundas	Dundas Heating & Air
Dundas	Henry Young Heating & Cooling Ltd.
Dundas	R J Wiley Heating
Dunnville	Bill Pogson Plumbing, Heating & Air Conditioning
Fenwick	P & P Home Heating & Air
Fonthill	Mr. Furnace, A Division of Airtime Canada Ulc.
Fort Erie	Glenn Hald Plumbing & Heating
Fort Erie	J Muro Plumbing & Heating Ltd.
Grimsby	A & R Heating & Cooling
Grimsby	Aldershot Air Conditioning and Heating Ltd.
Grimsby	Hubbard Air Inc.

Grimsby	J D W Mechanical Inc.
Grimsby	Naturally Gas Ltd.
Grimsby	Premium Home Services
Grimsby	South Shore Heating And Air Conditioning
Hamilton	Able Heating & Cooling
Hamilton	Adda Mechanical Heating Cooling IAQ
Hamilton	Aire One West Inc.
Hamilton	All In One Heating and Air Conditioning
Hamilton	Allied Mechanical
Hamilton	A-Plus Air Systems
Hamilton	Archie Horn & Son Ltd.
Hamilton	Ashland Heating & Air Conditioning Inc.
Hamilton	Blue Flame Inspection Services Inc.
Hamilton	Bosanac Heating & Electric Ltd.
Hamilton	D G Heating & Cooling Inc.
Hamilton	Eastern Refrigeration
Hamilton	General Atmospheric System
Hamilton	Great Lakes Natural Gas Services
Hamilton	Hamilton Home Comfort Inc.
Hamilton	Heres Heating & Cooling Inc.
Hamilton	Highpoint Technical Services Inc.
Hamilton	J C Heating & Cooling
Hamilton	Jerry's Heating & Air Conditioning
Hamilton	Noble Total Comfort Systems Inc.
Hamilton	Rennie Heating & Air Conditioning Inc.
Hamilton	S M S Heating & Air Conditioning
Hamilton	Sears Canada Inc.
Hamilton	Sears Indoor Clean Air Services
Hamilton	Shipton's
Hamilton	Sordo's Heating & Air Conditioning
Hamilton	Tafcon Heating and Air Conditioning
Hamilton	Thermo - Tek
Hamilton	Ultra Comfort
Hamilton	William Carey Mechanical
Milgrove	Franks Heating & Air Conditioning Ltd.
Niagara Falls	All Star Mechanical, Plumbing and Heating
Niagara Falls	Alocal Gas Co.
Niagara Falls	Conway's Mechanical Contracting Inc.

Niagara Falls	Emerald Plumbing & Heating Co Ltd
Niagara Falls	Evans Refrigeration Ltd.
Niagara Falls	Goosen Heating and Air Conditioning
Niagara Falls	K W Heating & Air Conditioning
Niagara Falls	Mr. Furnace Huero Commercial
Niagara Falls	NewConcept Heating & Air Conditioning
Niagara Falls	Provincial Heating and Air Conditioning
Niagara Falls	Reid Tech Air
Niagara-on-the-Lake	Bayer Air Systems
Niagara-on-the-Lake	C R Turner Plumbing, Heating & Air Conditioning
Niagara-on-the-Lake	Warren Mechanical
Port Colborne	V A Hoffman Plumbing Heating & Sheet Metal
Port Dover	Gastek Heating & Air Conditioning
Port Robinson	Upham Heating and Air Conditioning
Ridgeway	A 1 Appliance Repair
Ridgeway	Heatmaster Systems Inc.
Smithville	Bill Crown Plumbing & Heating
Smithville	Kalter Climate Control
Smithville	West Lincoln Sheet Metal Inc.
St. Anns	Country Home Heating & Cooling
St. Catharines	Ab's Plumbing
St. Catharines	A-Plus Air Systems
St. Catharines	Brian Easton Heating & Air Conditioning
St. Catharines	Castle Plumbing And Heating Inc.
St. Catharines	Colossal Heating Ltd.
St. Catharines	Erie Mechanical
St. Catharines	Guenther Heating & Air Conditioning Ltd.
St. Catharines	J & S Heating & Air Conditioning
St. Catharines	Mackay Heating & Cooling
St. Catharines	Plumbtech Services Ltd.
St. Catharines	Revolution Energy Ltd.
St. Catharines	Sears Canada Inc.
St. Catharines	Sears Indoor Clean Air Services
St. Catharines	Service Experts of Niagara, A Service Experts Company
Stevensville	J W Furness Heating Inc.
Stoney Creek	Air Care Heating & Air Conditioning Inc.
Stoney Creek	Chamberlain Building Services Inc.
Stoney Creek	John Clough & Son Limited

Stoney Creek	Kent Heating & Air Conditioning Inc.
Stoney Creek	Precision Sheet Metal
Thorold	Ideal Plumbing & Heating
Vineland	Akrym Sheet Metal
Wainfleet	Pro-Gas Heating & Air Services
Welland	A Tech
Welland	Bob Reid Heating & Air Conditioning
Welland	Brian Nagy Heating & Air Conditioning
Welland	E A S Heating and Air Conditioning
Welland	Eric Gas & Electric
Welland	Huard Heating & Air Conditioning
Welland	Kee Energy & Air Filtration Systems
Welland	Welland Plumbing Ltd.

South East Ontario

Almonte	Reliable Heating and Cooling Ltd.
Arnprior	Anderson Heating #1514612 Ontario Ltd
Arnprior	Bruce Mechanical
Arnprior	Robert H. Yach Heating And Air Conditioning Ltd.
Arnprior	W O Stinson & Son Ltd.
Ashton	Hasty Service Heating & Air Conditioning Inc.
Bath	Glen-Air Systems
Belleville	Bentley Heating & Air Conditioning
Belleville	Besco Heating & A/C
Belleville	Bi-Temp Limited
Belleville	D & K Heating - Service Experts
Belleville	Friel Heating and Air Conditioning Inc.
Belleville	M Cal Heating Air Conditioning & Refrigeration Inc.
Belleville	Parks Heating & Cooling Ltd.
Belleville	Quinte Air Supply Ltd.
Belleville	R & R Gas Services
Belleville	Sears Canada Inc.
Brockville	A W Heating and Cooling
Brockville	Inter Climate Inc.
Brockville	Petersen Mechanical
Brockville	Ron Ball Refrigeration
Brockville	T R S Heating & Cooling
Campbellford	Rene's Total Home Comfort Ltd.

Carleton Place	Al-Air Air Conditioning Refrigeration & Heating
Carleton Place	Carleton Refrigeration, Heating and Air Conditioning Ltd.
Carleton Place	Comfort Pro
Carleton Place	Parkman Plumbing and Heating
Carp	72 Degrees Heating & Cooling Solutions Inc.
Carp	Harding Heating & Air Conditioning
Carp	Tempo Services Ltd.
Carrying Place	Jerry's Heating & Air Conditioning Inc.
Cavan	Better Mechanical
Cornwall	Baker Heating & Air Conditioning Ltd.
Cornwall	Casey Mechanical Inc.
Cornwall	Cornwall Heating & Cooling Inc.
Cornwall	Enercombustion Ltd.
Cornwall	Walker ClimateCare
Cumberland	McCrostie Mechanical Heating & Air Conditioning
Elginburg	Reins Heating & Air Conditioning Ltd.
Embrun	Castor Heating & Cooling
Garden Hill	Brad's Heating & Cooling
Gloucester	Clement Marchand Natural Gas Services Ltd.
Gloucester	Ideal Combustion - Div. of Combusco Enterprises Ltd.
Gloucester	Optimum Heating & Cooling
Gloucester	Parent Heating & Cooling Inc.
Gloucester	W O Stinson & Son Ltd.
Godfrey	T H Stinson Heating & Air Conditioning
Greely	Belanger Heating & Air Conditioning
Havelock	Kenetic Energy Services
Hawkesbury	Aquamec Mechanical Inc.
Hawkesbury	Gray Hawk Co. Ltd. (1991)
Hawkesbury	Lortie Refrigeration Inc.
Ingleside	Marc Viau Mechanical Inc.
Janetville	Thermotech Heating & Cooling
Jasper	J & J Electric/Jack's Heat Pumps
Kanata	Air Zone HVAC Services
Kanata	Holmes Heating Inc.
Kemptville	R B Heating & Air Conditioning
Kemptville	Reliable Home Environment
Kemptville	Second Hat Heating
Kingston	Alex McCoy Plumbing & Heating Ltd

Kingston	Ben Laduca
Kingston	Brunet Heating & Air Conditioning
Kingston	Don Wilson Plumbing & Heating Ltd.
Kingston	Exclusive Cooling Ltd.
Kingston	G T Air Systems Inc.
Kingston	Haven Home ClimateCare
Kingston	Kingston Home Heating
Kingston	Rosen Fuels (1987) Ltd.
Kingston	Sears Canada Inc.
Kingston	Service Experts T L C
Kingston	Therm Aire Kingston Ltd.
Kingston	Triheat - Anglin Energy Supply
Long Sault	Gordonaire Heating & Cooling Inc.
Manotick	Heatbusters Inc.
Metcalfe	Home Comfort Innovations (H. C. I.)
Millbrook	Crown Heating and Cooling Systems
Morrisburg	Morrisburg Plumbing Centre
Navan	Aardvark Heating & Cooling
Navan	Riv Heating Installations
Nepean	Green Home Inspections Ltd.
Nepean	Newad Enterprises Ltd.
Nepean	Ottawa Plumbing and Heating
Nepean	Stan's HVAC Systems Inc.
Nepean	Thermoshell
Nepean	Waltek Energy Services Inc./Energy Plus
Nepean	William Hannah Heating & Cooling Inc.
Odessa	Mel Berry Heating & Air Conditioning Inc.
Orleans	Anchor ClimateCare
Orleans	Forest HVAC - 3688305 Canada Inc.
Orleans	Lynx Energy Svc. Ltd.
Orleans	Mr. Scott Cameron
Orleans	Premier Comfort
Orleans	Rick Menard Heating & Cooling Ltd.
Osgoode	A C Herbert Heating & Cooling Ltd
Ottawa	Air Care
Ottawa	Atwood-Gravel Heating and Air Conditioning Inc.
Ottawa	Barton Air
Ottawa	Below Zero Heating & Air Conditioning Ltd.

Ottawa	Comfort Mechanical, Heating & Air Conditioning
Ottawa	Comfy Air
Ottawa	Dir-Tek Energy Management
Ottawa	F L Heating & Air Conditioning
Ottawa	Federal Heating & Air Conditioning, Service Experts
Ottawa	Francis Fuels Ltd./Petro-Francis Inc.
Ottawa	Francis Home Environment Service Experts
Ottawa	Furnace Factory Direct Inc.
Ottawa	Heatex Systems
Ottawa	Howard Boyle Heating & Air Conditioning
Ottawa	Independent Supply
Ottawa	Integral Mechanical
Ottawa	J C Robinson & Sons Ltd.
Ottawa	J D Swallow Heating Contractors Inc.
Ottawa	Let Richard Do It
Ottawa	Mercury Mechanical
Ottawa	Mr. Neil Surch
Ottawa	Nas Gas Heating & Cooling
Ottawa	Ottawa Home Services
Ottawa	Phillips Heating and Cooling
Ottawa	Renato's Home Service
Ottawa	Renomech Solutions Ltd.
Ottawa	Robidoux Heating & Air Conditioning
Ottawa	Rona Home & Garden
Ottawa	Sears Canada Inc.
Ottawa	Sears Indoor Clean Air Services
Ottawa	The Energy Centre
Ottawa	Titley Mechanical Inc.
Ottawa	Top Hat Home Comfort Services
Ottawa	Vision Air Conditioning & Heating Corporation
Perth	J P Brankin & Sons Ltd.
Perth	Kilpatrick Fuels Ltd.
Peterborough	Aces Heating & Air Conditioning Discounters
Peterborough	Allstar Mechanical Contractors Inc.
Peterborough	Battye Mechanical Services Inc.
Peterborough	Dart Heating & Air Conditioning
Peterborough	Deeth & White Ltd.
Peterborough	Edgar Simmons Heating Ltd.

Peterborough	Innovative Energy Solutions Inc.
Peterborough	Integrated Air
Peterborough	Lakeshore Heating Service Experts
Peterborough	McMillan Refrigeration Ltd.
Peterborough	Peterborough Refrigeration, Heating & Air Conditioning
Peterborough	Ray Johnston Heating
Peterborough	Rayco Refrigeration (Peterborough) Limited
Peterborough	Shanworth Enterprises Inc.
Peterborough	Tom's Heating & Cooling
Peterborough	Ultimate Heating and Cooling
Peterborough	Upper Canada Burner Service Ltd.
Picton	Clapp & Jackson Plumbing & Heating
Port Hope	Pritchard Mechanical Inc.
Prescott	Hometown Heating
Prescott	Toshack Bros. (Prescott) Ltd.
Reaboro	Karelsen Plumbing & Heating
Renfrew	McCrea's Heating & Air Conditioning
Renfrew	Melcher Heating & Cooling
Richmond	Brian Boxall Heating Ltd.
Richmond	Climate Works Heating & Cooling
Rockland	Climatic Heating & Cooling Inc.
Rockland	J C Energy Equipment Ltd.
Rockland	Kooltech Mechanical
Rockland	Sample Heating & Air Conditioning Inc.
Selby	Kennelly Heating & Air Conditioning
Smith Falls	Denoco Energy Systems Ltd.
Spencerville	The Stove Store
St. Isidore	Fernand Denis Inc.
Stittsville	E N Blue Ltd.
Stittsville	Murray Refrigeration Air Conditioning & Heating
Tamworth	Rural Water Services
Tweed	Bosley Heating & Cooling Inc.
Vankleek Hill	Low's Heating & Refrigeration Inc.
Westport	Foley Mountain Mechanical
Westport	Thake Home Comfort Centre
Williamsburg	Atel Air / Arthur Thom Electric Ltd.
Williamstown	C & R Heating and Cooling
Williamstown	Houde Mechanical Inc.

Woodlawn Gasco Residential Services
Woodlawn M J R Mechanical Services Inc.

Greater Toronto Area

Agincourt Vetro Sheet Metal Ltd.
Ajax Brown's Home Heating & A/C
Ajax Rodman Heating & Air Conditioning
Ancaster Efficient Heating and Air Conditioning
Ancaster Pro Active Home Comfort Service Inc.
Ancaster Simon Nugter
Aurora A & M Heating & Air
Aurora Air Xperts
Aurora Best Climate Heating & Cooling Inc.
Aurora Canadian Mechanical Solutions Inc.
Aurora Summers and Smith Cooling & Heating Ltd.
Aurora T H Oliver Heating & Air Conditioning Inc.
Aurora Temperate Air
Aurora Willowdale Climatedate Heating & Cooling
Beeton Mayberry Heating Limited
Bolton Albion Appliance, Heating & Air Conditioning Ltd.
Bolton Geo-Thermal Furnaces Ltd.
Bowmanville Alma Mechanical
Bowmanville Durham Environmental Systems/The Comfort Shoppe
Bowmanville Green Energy Solutions Heating & Air Conditioning
Bradford Direct-Air Heating & Air Conditioning
Bradford Gary Woodcock & Sons Heating & Air Conditioning
Bradford Pro Heat & Air
Brampton A Canadian Comfort
Brampton Almilli Mechanical
Brampton Aura Heating & Cooling Solutions Ltd.
Brampton BTR Air Conditioning
Brampton Brampton Sheet Metal Limited
Brampton Cancool Mechanical
Brampton Circa Refrigeration Inc.
Brampton Cosmopolitan Mechanical Systems Inc.
Brampton D & J Mechanical Ltd.
Brampton Dr. H.V.A.C. Ltd.
Brampton Electro Air Systems Inc.

Brampton	Fire & Ice Heating and Cooling Services
Brampton	Frontier Heating & Air Conditioning Inc.
Brampton	ISV Heating And Cooling Services
Brampton	Laser Heating & Air Conditioning
Brampton	MJF Heating & Air Conditioning Inc.
Brampton	Master Mechanical Systems
Brampton	Metropolitan Sheet Metal Ltd./Metropolitan Home Comfort Solutions
Brampton	Mike's Air Conditioning & Heating - M.A.C.H.1
Brampton	Nortek Mechanical Services
Brampton	Northwest Gas Ltd.
Brampton	Olympic Air Systems
Brampton	Parkaire Systems Inc.
Brampton	Peatson's Heating and Air Conditioning
Brampton	Peel Heating Service Experts
Brampton	Reliable Mechanical Services Inc.
Brampton	Rolair Heating & Cooling Ltd.
Brampton	Romark Mechanical Inc.
Brampton	Sahib Air Systems
Brampton	Special Gas Services Ltd.
Brampton	Titan Mechanical
Brampton	Ultra Built-in Systems
Brampton	Woodbridge Mechanical Ltd
Brighton	Generations Heating & Air Conditioning
Brighton	Gerald Davidson Plumbing & Heating Limited
Brooklin	Tranquility Home Comfort Ltd.
Burlington	ABW Air Systems Ltd
Burlington	Air-Quest Inc.
Burlington	Broom's Air Conditioning
Burlington	Burlington Energy Systems Co. Ltd.
Burlington	Burlington Heating & Air Conditioning
Burlington	Hamilton Oliver Thermal Control Ltd.
Burlington	Home Heating, Cooling & Fireplace Inc.
Burlington	John Ebos Fuels Ltd
Burlington	K A P Air Inc.
Burlington	Maintemp
Burlington	Mountainside Heating & Air Conditioning Ltd.
Burlington	Paradigm Venture
Burlington	Sun Mech Inc.

Burlington	Total Flame Inc.
Burlington	Union Energy (Hamilton)
Carrying Place	Rad Mechanical
Cobourg	Comfort Zone Heating & Air Conditioning
Cobourg	Country Hearth
Cobourg	G & G Comfort Cooling Inc.
Cobourg	Markland Plumbing & Heating Ltd.
Cobourg	Oshawa Air
Cobourg	Superior Heating & Air Conditioning, Div. of Stark Mechanical Inc.
Cobourg	Wayne Simpson Refrigeration & Heating
Colborne	Darke Heating Ltd.
Colborne	L J Kernaghan Construction Limited
Concord	Air-Bridge Heating & Cooling Ltd.
Concord	Bestair Serv Inc
Concord	Bradley Air Conditioning Limited, A Service Experts Company
Concord	Cozy World
Concord	E - M Air Systems Inc.
Concord	Four Seasons Air Control
Concord	Hawaiian Arctic Inc.
Concord	Husky Heating o/b Air-F Inc
Concord	Pinnacle Comfort Inc.
Concord	Selex Air Inc.
Concord	Tesmor Climate Services Ltd.
Concord	Weatherman Heating & Air Conditioning
Courtice	Air Aid Mechanical Ltd.
Courtice	Duke's Heating
Courtice	Top Gun Gas Services
East York	Sears Indoor Clean Air Services (1695295 Ontario Inc.)
Etobicoke	A Plus Air Systems Inc.
Etobicoke	Active Air Comfort
Etobicoke	Air Quality Dunrite
Etobicoke	Canadian Indoor Solutions Inc.
Etobicoke	Easterbrook Brothers Ltd.
Etobicoke	Humber Heating & Cooling Systems
Etobicoke	National Air Systems Inc.
Etobicoke	R S G Mechanical Inc.
Etobicoke	Sears Canada Inc.
Etobicoke	Superior Air Systems Ltd.

Etobicoke	Yorktowne Air Systems
Georgetown	Asbuilt ClimateCare Inc.
Georgetown	Brampton Air Systems Ltd.
Georgetown	Doug Chalmers Inc
Georgetown	North Halton Heating
Georgetown	Renair Heating & Air Conditioning
Georgetown	T & K Heating & Air Conditioning
Grafton	Northumberland Refrigeration, Heating & Air Conditioning Inc.
Greensville	The Source
Hannon	Abacus Home Service
Hannon	B & G Heating, Air Conditioning & Ventilation
Hillier	Lloyd's Heating & Cooling
Kleinburg	Complete Comfort Heating & Air Conditioning
Maple	Cool Comfort Heating & Air Conditioning
Maple	Heating Plus
Markham	24/7 Mechanical
Markham	Advanced Air Systems
Markham	Aire One Heating & Cooling Inc.
Markham	Aqua Mechanical Systems
Markham	Avalon HVAC Pro
Markham	Davenport-Campbell Co. Ltd.
Markham	Direct Energy
Markham	ESP Contracting Inc.
Markham	Grace Mechanical
Markham	High Efficiency Cooling & Heating Inc.
Markham	Homestar Heating & Air Conditioning Inc.
Markham	KVM Heating & Cooling
Markham	Lee Heating & Cooling
Markham	Long Long Mechanical & HVAC Service
Markham	Mint Air-Conditioning
Markham	Ohm's Mechanical Service
Markham	Pacific Home Comfort
Markham	Palmer Bros. Heating & Air Conditioning
Markham	Pinewood Heating & Air Conditioning
Markham	SIG Mechanical Services Limited
Markham	Sheridan Heating
Markham	Smart Service Solution
Markham	Spring Home Heating & Cooling Systems Inc.

Milton	Bailey Heating & Cooling
Milton	Bona-Air Heating & Cooling
Milton	DM Air Inc.
Milton	Globalaire Mechanical Systems Ltd.
Milton	Impact Heating & Air Conditioning
Milton	M A R C H Mechanical Ltd.
Milton	Terry Rowley Mechanical Inc.
Mississauga	A&M Heating & Air Conditioning Ltd.
Mississauga	About Pure Air Inc.
Mississauga	Absolute Comfort Systems Inc.
Mississauga	Air Flow Heating & Cooling Ltd.
Mississauga	Air Heating Plus
Mississauga	Air Tech Heating & Air Conditioning
Mississauga	Air Tech West
Mississauga	Aire One Peel Heating & Cooling
Mississauga	Alfa Aire Inc.
Mississauga	Almar Energy Group
Mississauga	Alpha Comfort Control
Mississauga	Annron Services Ltd
Mississauga	Applewood Air Conditioning Ltd.
Mississauga	B & B Mechanical Services
Mississauga	Bach Heating & Cooling
Mississauga	Bradley Mechanical Services
Mississauga	Brenmar Heating & Air Conditioning
Mississauga	Brim Refrigeration & Appliance Services
Mississauga	Canadian Home Heating Limited
Mississauga	Capital Heating & Air Conditioning
Mississauga	Cervol Service Group
Mississauga	Clarkson Comfort Zone
Mississauga	Climatemp Systems Ltd.
Mississauga	Comfortek Heating & Air Conditioning Inc.
Mississauga	Controlled Comfort Air
Mississauga	Coretemp Heating and Air Inc.
Mississauga	CRL Mechanical
Mississauga	Cyber Air Systems Inc.
Mississauga	Eagle Home Comfort
Mississauga	Encore 21 Heating & Air Conditioning
Mississauga	Extra Air System

Mississauga	Fawn Heating, Cooling & Refrigeration Ltd.
Mississauga	Five Lambs Home Appliances Service
Mississauga	Four Seasons Air Control
Mississauga	Gibbons Heating and Air Conditioning
Mississauga	GM Air 121 Inc.
Mississauga	Great West Gas
Mississauga	Halton Peel Heating Inc.
Mississauga	Heat-Master Mechanical Ltd.
Mississauga	Hi-Cool Air Systems
Mississauga	Home Comfort Canada
Mississauga	HVAC For Life
Mississauga	I L G Heating Air Conditioning & Mechanical Inc.
Mississauga	Jesco Gas Services
Mississauga	Kuzior Enterprises
Mississauga	Marcotto Mechanical Contractors
Mississauga	Mega Heating & Air Conditioning Inc.
Mississauga	Metropolitan Mechanical Services Inc.
Mississauga	Mississauga Home Comforts
Mississauga	NASA Heating & Air Conditioning Services Ltd.
Mississauga	National Mechanical
Mississauga	Preferred Air Ltd.
Mississauga	Reliance Home Comfort
Mississauga	Royal Comfort Ltd.
Mississauga	Sears Canada Inc.
Mississauga	Song Liu
Mississauga	The Furnace Room Inc.
Mississauga	Tropical Heating & Air Conditioning Ltd.
Mississauga	Ultra Comfort
Mississauga	Weber Heating & Air Conditioning Inc.
Mississauga	Wolseley Canada Inc., Frontier-Wolseley HVAC/R Group
Mississauga	Yorkdale Heating & Air Conditioning Services Inc.
Newmarket	Action Heating Co. Ltd.
Newmarket	Aire One North
Newmarket	Bray's Fuels Limited
Newmarket	Canco ClimateCare Heating & Air Conditioning
Newmarket	Comfort Zone Heating & Air Conditioning
Newmarket	Cumming Clean Heat & Cooling Ltd.
Newmarket	D G Climate Control Services Inc.

Newmarket	Maple Air Inc.
Newmarket	Newmarket Heating and Air Conditioning
Newmarket	S R Gillis & Sons Ltd.
Newmarket	Sandy Sheridan Heating
Newmarket	Sears Canada Inc.
Nobleton	Heffernan Heating & Air Conditioning
North York	Comfort Quest
North York	Enpure Home Comfort Ltd.
North York	Gary Thibedeau Heating
North York	Heatizon Heating & Air Conditioning
North York	James Kim's Heating & A/C Co.
North York	Nordicair Limited
North York	OmniPro Heating and Cooling
North York	Petro Partners
Oakville	A1 Air Conditioning & Heating - Messenger Mechanic
Oakville	Abbey Air Service Experts
Oakville	Air Calm ClimateCare
Oakville	Airworks Inc.
Oakville	Appleby Systems
Oakville	Atlantis H.V.A.C. Systems Inc.
Oakville	Atlas Air Climatecare
Oakville	Binnie Mechanical Services
Oakville	Branair Ltd.
Oakville	BRB HVAC
Oakville	CreekPath Home Services Inc.
Oakville	Home Comforts of Oakville
Oakville	K McMillan Heating & Air Conditioning Inc.
Oakville	Max Air
Oakville	Oakair Mechanical Ltd.
Oakville	Spectrum Energy Hvac Services
Oakville	Watson Air
Oakville	Weathermakers
Orangeville	Bryan's Fuel
Orangeville	Don's Heating & Cooling
Orangeville	Four Season Comfort Heating & Cooling
Orangeville	Hyde - Whipp Heating & Air-Conditioning
Orangeville	Jim Albright Refrigeration Ltd.
Oshawa	AGH Mechanical Ltd.

Oshawa	Cullen Heating & Air Conditioning
Oshawa	Dixon Mechanical
Oshawa	Harold Dunn
Oshawa	Heat/Cool Depot Ltd
Oshawa	Joe's Heating & Air Conditioning, Division Of Renald Enterprises Limited
Oshawa	Limcan Walker Heating & Air Conditioning, A Service Experts Company
Oshawa	Mike's Heating & Air Conditioning
Oshawa	Olympic Heating & Air Conditioning
Oshawa	Oshawa Refrigeration Service Ltd.
Oshawa	Perry Mechanical Inc.
Palgrave	Mcdonald Mechanical
Pickering	Advantage Airtech Ltd.
Pickering	Aobutec Inc. Heating & Air Conditioning
Pickering	Arctic Mechanical Technologies
Pickering	Certified Heating Service Experts
Pickering	Classic Air Systems
Pickering	Climate Control Heating and Air Conditioning
Pickering	Comfortwave Heating & Cooling Ltd.
Pickering	Compass Home Services Inc.
Pickering	Durham Controlled Environment
Pickering	Hot & Cold Air Services
Pickering	Improvair Ltd.
Pickering	Jireh Heating & Air Conditioning
Pickering	Star HVAC System Inc.
Rexdale	Natural Gas Home Heating
Richmond Hill	Absolute Building Control Services Ltd.
Richmond Hill	Air Conditioning Experts
Richmond Hill	Air Net Heating & Cooling
Richmond Hill	Air Tech Ultimate Comfort Inc.
Richmond Hill	Atlantic Air Zone Heating & Cooling
Richmond Hill	Clear Sky Air Solutions Inc.
Richmond Hill	Conserve Gas Services Ltd.
Richmond Hill	Diatec Hvac Systems Inc.
Richmond Hill	Easy Solution Heating, Cooling & Ventilation
Richmond Hill	Econoair Heating & Cooling Inc.
Richmond Hill	GTA Aire
Richmond Hill	Monarch Mechanical

Richmond Hill	Prime Time Heating & Air Conditioning Ltd.
Richmond Hill	Rosehill Electrical & Mechanical Inc.
Richmond Hill	Sears Indoor Clean Air Services Ltd.
Richmond Hill	Suburban Services Ltd.
Richmond Hill	Thermoshell
Richmond Hill	Ultra Home Products Inc.
Scarborough	A C Heating & Air Conditioning Co
Scarborough	Active Temp Control Inc.
Scarborough	Air Flex Heating & Cooling Ltd.
Scarborough	Air Makers Inc
Scarborough	Air Plus Heating & Cooling Inc.
Scarborough	Bill's Mechanical Heating & Cooling
Scarborough	Bluemount Heating and Air Conditioning
Scarborough	Button's Heating Inc.
Scarborough	Cambridge Heating Cooling & Duct Cleaning
Scarborough	Cedarwood Climatecare
Scarborough	Celsius Heating & Air
Scarborough	Complete Heating & Air Conditioning Co. Limited
Scarborough	Deer Heating & Cooling Inc.
Scarborough	Dragon Appliance Centre
Scarborough	Empire Thermal Systems Inc.
Scarborough	En Saving Inc.
Scarborough	Fairview Refrigeration Inc.
Scarborough	First Refrigeration Eng. Ltd.
Scarborough	General HVAC & Electrical
Scarborough	High Life
Scarborough	Infiniti Air Conditioning & Heating Ltd.
Scarborough	Leon Refrigeration Inc.
Scarborough	Megacity Heating & Air Conditioning Ltd.
Scarborough	Mersey Service Experts
Scarborough	Metropolitan Heating & Air Conditioning Ltd.
Scarborough	P C Control Systems Inc.
Scarborough	Raman Appliances Inc.
Scarborough	SBN Mechanical
Scarborough	Scarborough Heating & Air Conditioning
Scarborough	Southern Comfort Heating & Cooling
Scarborough	Thermo Care Heating and Cooling
Scarborough	Toronto Home Comfort Inc.

Schomberg	Schomberg Sheet Metal Ltd.
Schomberg	The Fireplace Stop
Scarborough	Xiwei Yin
Sharon	Anderson & Sons Heating
Stouffville	Ken Smurthwaite Heating Ltd.
Stouffville	Markham Heating & Air Conditioning Systems
Thornhill	Air Comfort Ontario Ltd.
Thornhill	Best Service
Thornhill	Custom HVAC
Thornhill	Design Air Climatecare
Thornhill	Eskimo HVAC & Refrigeration
Thornhill	Fanman Air Systems
Thornhill	Golden Refrigeration & A/C Ltd
Thornhill	J W Aubie Heating & Air Conditioning Ld.
Thornhill	Sears Canada Inc.
Toronto	A & J Security Company Ltd.
Toronto	A Budget Heating & Air Conditioning
Toronto	A W Heating & Air Conditioning
Toronto	Abide Heating & Sheet Metal
Toronto	Air Treatment ClimateCare
Toronto	Aire One Heating & Cooling Inc.
Toronto	Airview Mechanical
Toronto	Arrow Heating & Air Conditioning Ltd.
Toronto	Basic Heating & Air Conditioning
Toronto	Belcomfort Heating & Air Conditioning, Div. of Pronto Heating & Air Conditioning
Toronto	Belyea Brothers Ltd.
Toronto	Bettencourt Air Limited
Toronto	Bigelow Heating & Air Conditioning Ltd.
Toronto	Biss Environmental Systems
Toronto	Blue Flame Heating & Air Conditioning Ltd.
Toronto	Carey Heating & Air Conditioning
Toronto	Catherine Heating Cooling
Toronto	Centrifugal Associates Inc.
Toronto	City Air Conditioning & Heating
Toronto	Clean Air Systems Ltd.
Toronto	Comfort Alliance Inc.
Toronto	Conclusive Mechanical Systems Inc.

Toronto	Controlled Comfort Air Inc.
Toronto	Controlled Environment
Toronto	Convertible Heating & Air Conditioning Inc.
Toronto	Copperhead Mechanical Ltd.
Toronto	Cozy Comfort Plus
Toronto	Direct Air Systems
Toronto	Duggan Heating & Air Conditioning
Toronto	Dupont Heating & Air Conditioning
Toronto	Eastern Refrigeration
Toronto	Enertech Climate Control
Toronto	Enwise Power Solutions Inc.
Toronto	Farland Heating & Cooling Company
Toronto	Faster Heating & Air Conditioning
Toronto	Gal Heating Systems Limited
Toronto	General Gas Service
Toronto	Green House Home Comfort
Toronto	Hana Tech
Toronto	Henry Heating & Cooling
Toronto	J.R. Heating & Air Conditioning Company
Toronto	L B Heating and Air Conditioning Co.
Toronto	Laird & Son Heating & Air Conditioning
Toronto	McKinnon Heating & Cooling
Toronto	North Rock Inc. Mechanical Services
Toronto	Peter's Contracting Company Service
Toronto	Premi-Air Heating & Air Conditioning
Toronto	Prime Heating and Cooling
Toronto	Priory Heating Air Conditioning Ltd.
Toronto	Qualified Mechanical Services Inc.
Toronto	Quality Built-in Home Systems Inc.
Toronto	Revolution Air Heating & Cooling
Toronto	SAR Gas Services Inc.
Toronto	SOS Home and Commercial Services
Toronto	Sal-Air Heating & Air Conditioning
Toronto	Sears Indoor Clean Air Services
Toronto	Sipco Heating & Cooling/Sipco Group
Toronto	Sky Knights Heating and Cooling
Toronto	Smart Energy Heating & Cooling
Toronto	United Energy Heating & Air Conditioning Systems Group Inc.

Toronto	Visic Bros. Heating Co. Ltd.
Toronto	Walltek Mechanical Inc.
Toronto	West End Heating
Toronto	World of Comfort Ltd.
Tottenham	Milligan Heating & Cooling Ltd.
Tottenham	Ray Mar Enterprises Incorporated
Trenton	21 Degrees, A Division of Airtime Canada
Trenton	Dows Heat & Air
Trenton	Spectrum Mechanical
Unionville	D S Martin Mechanical Ltd.
Unionville	Kevray Appliance Service
Unionville	Unionville Heating & Air Conditioning Ltd.
Uxbridge	Therwood Heating & Cooling Ltd.
Vaughan	Air Efficiency Corp.
Vaughan	Mainflo Air Systems Inc.
Vaughan	United Thermo Group
Vaughan	Wrightway Heating & Air Conditioning Inc.
Vaughan	Zverev Heating & Cooling
Waterdown	Comfort First Heating & Cooling Inc.
Waterdown	Excel Heating & Air Conditioning Systems
Waterdown	Flamborough Air Service
Weston	Rush Heating & Air Conditioning Inc.
Whitby	Adamson Air Systems
Whitby	Air Solutions N E Ltd.
Whitby	Aire One Heating & Cooling East
Whitby	Ashton Heating & Cooling
Whitby	Durham Mechanical
Whitby	George Hamers Ltd
Whitby	Hawkeye Gas Installations
Whitby	Independent Air Quality
Whitby	M.G.M. Heating & Air Conditioning
Whitby	Natural Choice Heating & Cooling
Whitby	Royalair Heating and Cooling Inc.
Whitby	Sears Canada Inc.
Whitby	Total Home Comfort
Whitby	Yanch Heating & Air Conditoning (Durham) Ltd.
Woodbridge	A-Comfort Air Systems
Woodbridge	Affordable Air System Inc.

Woodbridge	Ber Cool Ltd.
Woodbridge	Bruce Home Comfort Ltd.
Woodbridge	Direct Air Systems
Woodbridge	Dynamic Climate Control
Woodbridge	Extreme Temperatures Inc.
Woodbridge	Gastech HVAC Systems
Woodbridge	Mancini Heating & Air Conditioning Ltd.
Woodbridge	Polar Climate Control Inc.
Woodbridge	Spectrum Heating and Air Conditioning
Woodbridge	Thermo Cool Mechanical
Woodbridge	Toronto Heating and Cooling Ltd.
Woodbridge	Woodbridge GTA ClimateCare

Appendix E — Existing Switch the 'Stat Program Resources

PROGRAM WEBSITE HOMEPAGE — www.switchthestat.ca

The screenshot shows the homepage of the Switch the 'Stat program. At the top, it identifies itself as a program of the Clean Air Foundation. The main navigation menu includes 'Our Programs', 'The Team', 'Media', 'Awards', 'Sponsor a Program', and 'Careers'. The central banner features a background image of a thermostat dial and contains the following statistics:

- MILLIONS of old, inefficient mercury-containing thermostats still used today
- 26,200 mercury thermostat switches removed and recovered
- 65 KILOGRAMS of mercury not released into the environment*

A note at the bottom of the statistics states: * Just one gram of mercury is enough to contaminate an eight-hectare lake.

On the left side, there is a sidebar with a 'Switch the 'Stat Home' button and a list of links: 'About the Program', 'For Homeowners', 'For Contractors & Wholesalers', 'Facts & Info', 'News', 'Partners & Funders', 'Links & Resources', and 'Program Contacts'. Below these links is a red 'REGISTER with Switch the 'Stat' button. Further down, there is a link to a 'Switch the 'Stat Brochure (1.7 MB PDF)' and a logo for the 'CANADIAN ENVIRONMENT AWARDS 2008' with the text 'Winner of the silver Environmental Health Award'.

The main content area below the banner is titled 'What is Switch the 'Stat?' and contains the following text:

Switch the 'Stat is a residential and commercial thermostat exchange program. The Clean Air Foundation works with heating and cooling contractors and wholesalers to encourage the installation of energy-efficient programmable thermostats, while simultaneously, diverting the older mercury containing thermostats from landfill to a safe storage facility. 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.

Below this text is a section titled 'Learn how to Make the Right Switch!' with a partial image of a hand pointing to a mercury switch and the text 'This is a mercury switch –'.

On the right side, there is a grey box titled 'Boonstra's One Hour Heating & Air Conditioning' with the following details:

- Dundas, Ontario
- www.boonstrasonehour.com

Clean Air Foundation is pleased to feature Boonstra's One Hour Heating & Air Conditioning for their excellent participation in the Switch the 'Stat program.

Since October 2007, the company's Dundas, Ontario location has recovered 436 mercury-containing thermostat switches, meaning that they've prevented more than one kilogram of mercury, a harmful neurotoxin, from entering landfill.

These excellent collection results are not surprising when put in the context of their dedication to customer service. Not only does Boonstra's One Hour Heating & Air Conditioning...

The bottom of the screenshot shows a Windows taskbar with several open applications: '2 Microsof...', 'Ontario Ther...', 'STS Interim...', 'Switch the 'S...', and 'Ontario'. The system tray includes 'Search Desktop' and 'Internet'.

PROGRAM INSTRUCTIONS FOR PARTICIPATING CONTRACTORS AND WHOLESALERS



Thank You for Participating in Switch the 'Stat!

By collecting old mercury thermostats and returning them to us, you are helping to make a real difference in the health of our environment. To date, *Switch the 'Stat* contractors and wholesalers have collected over 10,600 mercury-containing thermostat switches, meaning that more than 27 kilograms of mercury have been prevented from polluting our air, soil and water.

In 2008, our goal is to collect 10,000 mercury switches!

Participation Instructions

1. The Clean Air Foundation has sent you a collection container with a pre-paid return Purolator waybill. **Do not lose this waybill!** Keep it in a safe place until you are ready to send in the container.
2. Bring the collection container with you on jobs.
3. When you are asked to replace old thermostats with new programmable thermostats, place the old thermostat in the collection container.
4. **Do not dismantle the mercury switch** from the thermostat.
5. Continue to collect thermostats in the containers. If your container gets full and you need a new one, contact Janet Taylor at 416-922-9038 x241.
6. When the container is full, or when you are requested to send it in, please call Purolator and ship the container using the pre-paid waybill. The container will be sent to a collection and storage facility, to ensure that the mercury is safely and responsibly recovered from the old thermostats.

Congratulations! You can rest easy, knowing that you have helped keep mercury out of the environment and at no cost to you! You will be featured by the Clean Air Foundation as a responsible leader in your industry.

Mercury Background Information

As you know, in spite of the energy-saving benefits of programmable thermostats, many homes still have old mercury thermostats. These contain between one and four switches which contain approximately 2.5 grams of mercury each. The mercury is contained in a glass bulb, which tilts back and forth as the temperature changes and activates an on-off switch.

Mercury is a potent neurotoxin and is extremely harmful to the health of humans and wildlife. Mercury is especially toxic to young children and women of child-bearing age because it can inhibit the development of the brain and nervous system. **Mercury-containing thermostats pose a threat to human health and the environment when they are improperly disposed of.**

Because mercury is dangerous to human and environmental health, it must be disposed of safely and responsibly. By participating in this program, you help ensure that mercury-containing thermostats are prevented from entering landfill, and that the mercury is safely and responsibly recovered and stored.

Switch the 'Stat combines the benefits of improved residential energy efficiency through the installation and use of programmable thermostats with a collection program for old mercury-containing thermostats.

Contact Us!

Janet Taylor
Clean Air Foundation
Phone: 416-922-9038 x241
Fax: 416-922-1028
E-mail: jtaylor@cleanairfoundation.org
Website: www.switchthestat.ca

Switch the 'Stat Program Partners



uniongas
A Spectra Energy Company



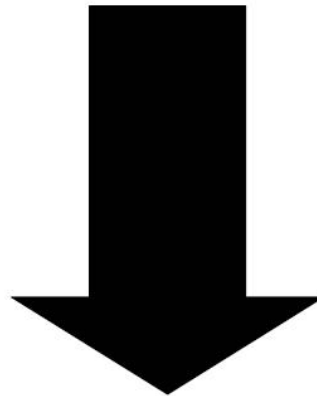
Imperial Oil
Foundation

LAMINATED INSTRUCTION POSTER FOR PARTICIPATING CONTRACTORS AND WHOLESALEERS

Attention Heating and Cooling Contractors!

Did you know that disposing of older mercury-containing thermostats with regular waste can result in toxic mercury being released into the environment?

Do the right thing! Please dispose of **fully intact** mercury-containing thermostats in this collection bin and prevent mercury from contaminating the air, soil and water!



Contact:
Erica Pinto, Clean Air Foundation
E-mail: epinto@cleanairfoundation.org
Phone: (416) 922-9038 x286

Participating in Switch the 'Stat is mandatory for Cool Savings Rebate participants.



PRINTED BROCHURE FOR HOMEOWNERS AND BUSINESS OWNERS (English version)



Make the right switch!


This is a mercury switch – something that still exists in millions of older mechanical thermostats. Mercury is highly toxic and dangerous to the health of people and wildlife.

Switching to newer and more energy-efficient programmable thermostats and responsibly disposing of older mercury-containing thermostats reduces energy consumption and prevents mercury from contaminating our air, soil and water.

cleanair
FOUNDATION

Another successful Clean Air Foundation program with over 10,600 mercury-containing thermostat switches collected to date.

(front)



Now the choice is yours!

If you dispose of your old thermostat with your household waste, you are sending mercury to landfill.

If you participate in **Switch the 'Stat**, you will conserve energy, save money, and prevent mercury releases to the environment.

Old mechanical thermostats have one to four switches, each containing approximately 2.5 grams of mercury.

Step 1: With the help of your participating **Switch the 'Stat** contractor, switch to a newer, more energy-efficient programmable thermostat.

Step 2: Responsibly dispose of your old mercury-containing thermostat through your local **Switch the 'Stat** contractor.

Mercury is a potent neurotoxin and it only takes **one gram** to contaminate an eight-hectare lake to the point where the fish are not edible for a full year.

A recycling facility will dismantle the thermostat, recycle the parts, and prevent the mercury from contaminating air, soil and water.

For more information, go to www.switchthestat.ca or call 416-922-9038 x286.

Switch the 'Stat program partners:

Ontario, Unigas, ENBRIDGE, Esso, Imperial Oil Foundation, Every Kilowatt Counts.

™ Official mark of the Ontario Power Authority
THIS FLYER WAS PRINTED USING A WATERLESS PROCESS ON 100% RECYCLED, ENVIRONMENTAL CHOICE CERTIFIED, PROCESSED CHLORINE FREE, FSC-APPROVED PAPER.

(back)

PRINTED BROCHURE FOR HOMEOWNERS AND BUSINESS OWNERS (French version)

Faites le bon choix!




Voici un interrupteur au mercure – un dispositif qui existe encore dans des millions d'anciens modèles de thermostats mécaniques. Le mercure est hautement toxique et dangereux pour la santé des humains et de la faune.

En passant à des thermostats programmables plus modernes et plus écoénergétiques et en éliminant de manière responsable les vieux thermostats contenant du mercure, on réduit la consommation d'énergie et on prévient la contamination au mercure de l'air, de sol et de l'eau.

FONDATION airpur

Un autre programme réussi de la Fondation Air pur qui a permis de récupérer jusqu'à présent plus de 10 600 interrupteurs au mercure.

(front)

À vous de faire votre choix!

Si vous jetez aux ordures votre vieux thermostat, vous envoyez du mercure aux décharges.



Les vieux thermostats mécaniques comportent de un à quatre interrupteurs, contenant chacun environ 2,5 g de mercure.



Le mercure est une neurotoxine puissante et il suffit d'un gramme pour contaminer un lac de huit hectares au point où le poisson ne peut pas être consommé pendant une année entière.

En participant à Troque ton Stat, vous économisez de l'énergie, de l'argent et évitez le rejet de mercure dans l'environnement.



Étape 1 : grâce à l'aide de votre entrepreneur participant à Troque ton Stat, optez pour un thermostat programmable plus moderne et plus écoénergétique.



Étape 2 : éliminez de manière responsable votre thermostat contenant du mercure en faisant appel à l'entrepreneur participant à Troque ton Stat de votre région.

Le thermostat sera démonté dans une installation de recyclage, les pièces seront recyclées et le mercure sera récupéré soigneusement afin qu'il ne contamine l'air, le sol et l'eau.

Pour de plus amples renseignements, allez à www.troquetonstat.ca ou appelez 416-922-9038, poste 286.

Partenaires du programme Troque ton Stat :







® Marque officielle de l'Office de l'électricité de l'Ontario
CETTE BROCHURE A ÉTÉ IMPRIMÉE À SEC ET SANS CHLORE SUR DU PAPIER RECYCLÉ À 100%, CERTIFIÉ PAR LE PROGRAMME CHOIX ENVIRONNEMENTAL ET LE PSC.

(back)

PROGRAM COLLECTION CONTAINER (5.5 gallon with UN-approved sealed lid for safe storage and shipping)



Appendix F — PowerPoint Presentation from the October 28, 2009 Public Webinar



**ONTARIO INDUSTRY STEWARDSHIP PLAN FOR
MERCURY-CONTAINING THERMOSTATS**

October 28, 2009

Agenda

- Background
- ISP Objectives
- Switch the 'Stat Program Overview
- ISP Participants
- Material Description – Product Definition, Product Lifespan, Available for Collection
- Program Infrastructure and Operation – Collection and Diversion Process, Accessibility, End-markets and Material Afteruse, Financing
- Promotion and Education
- Collection and Diversion Targets
- Audit
- Continuous Improvement and R&D
- Key Dates
- Q&A

Background

The purpose of the Ontario Waste Diversion Act (WDA) is to promote the reduction, reuse and recycling of waste and to provide for the development, implementation and operation of waste diversion programs.

Section 34 of the WDA states that WDO may approve a written plan under the following conditions

1. If it relates to a designated waste for which the Minister has approved a waste diversion program under WDA section 26, and
2. If WDO is satisfied that the plan will achieve objectives that are similar to or better than the objectives of the waste diversion program approved by the Minister.

Background

Mercury-containing thermostats are designated under Phase 2 of the MHSW Program.

On September 22, 2009, the Minister of the Environment approved the Consolidated MHSW Program Plan, which will be effective July 1, 2010.

ISP Objectives

- The ultimate goal of this ISP is to develop and deliver a program in Ontario that will achieve objectives that are similar to or better than the objectives for mercury-containing thermostats as stated in the approved consolidated MHSW program plan, using a program infrastructure that is already operational and achieving results
- Secondary goal is to create a program that can be expanded nationally – for example, British Columbia has similar legislation that comes into effect in July 2010

ISP Objectives

- The ISP will build on the existing Switch the 'Stat infrastructure of contractor/wholesaler collection to include additional collection channels, such as return-to-retail and mail-back options, to increase the program's accessibility and collection results
- The audience targeted through the ISP is residential and the small institutional, commercial and industrial (IC&I) sector

Switch the 'Stat Background



- The ISP will build on the existing Switch the 'Stat program, which was developed by Clean Air Foundation in 2006
- Switch the 'Stat encourages the installation of energy-efficient programmable thermostats, while simultaneously diverting the older mercury-containing thermostats from landfill to a secure storage facility
- The program is fully operational in Ontario with more than 1,300 participating HVAC contractors and wholesalers
- It is an ongoing year-round program with links to existing provincial and regional utility incentives



Switch the 'Stat Background



- Since April 2006, Switch the 'Stat in Ontario has collected more than 31,875 mercury-containing switches from thermostats (which is approximately 25,000 thermostats)
- This is equivalent to the recovery of more than 78 kilograms of mercury, given that each thermostat switch contains approximately 2.5 grams of mercury



ISP Participants

HRAI – Heating, Refrigeration and Air Conditioning Institute of Canada



CIPH – Canadian Institute of Plumbing and Heating



Manufacturers signed on:
Emerson Electric Corporation/White-Rodgers
Honeywell Corporation
York/Johnson Controls



ISP Participants

In addition to HRAI, CIPH and thermostat manufacturers, the following participants will be involved in program delivery:

- Clean Air Foundation for overall program management and delivery
- HRAI contractors and wholesalers and CIPH wholesalers for primary collection
- Other non-member contractors/wholesalers for primary collection
- Retailers for secondary collection through return-to-retail pilot



ISP Participants

Additional participants involved in program delivery:

- Purolator for shipping
- Aevitas for dismantling and documenting collection results
- Bethlehem Apparatus for end-market processing of mercury
- Durham Shred for end-market processing of plastics
- Wozniuk Brothers for end-market processing of metals



Material Description: Product Definition

- This ISP covers "mercury thermostats" defined as products that use mercury switches to sense and control room temperature through communication with HVAC equipment
- Each switch in a thermostat contains 2.5 grams of mercury, and a thermostat can contain 1-4 switches (the average is 1.4 switches per thermostat)
- Mercury thermostats are no longer manufactured by the major manufacturers
- The federal government is working on a risk management strategy that will ban the sale, import and manufacture of all mercury-containing products in to Canada



Material Description: Product Lifespan



- Thermostats are designed to last 20-30 years, however, the majority are replaced more frequently (i.e., every 7-10 years) as a result of renovations, HVAC equipment upgrades, etc.



cleanii

Material Description: Available for Collection



- Mercury thermostats are an obsolete material
- Over time, the amount available for collection will decrease to the point where there will be none left in Ontario homes and businesses
- There is variation in the estimates of the number of thermostats with mercury that are available for collection on an annual basis
- The Final Consolidated MHSW Program Plan estimates that there were 19,881 mercury-containing thermostats available for collection in Ontario in 2008

cleanii

Material Description: Available for Collection



- Given the range of estimates around what is available for collection, as well as the uncertainty in the product lifespan, this ISP will undertake an R&D project in Year 1 in the form of a contractor survey to determine the percentage of Ontario homes that still contain mercury thermostats and the average rate of removal
- This data will also be used to estimate the length of time this collection program will need to run in order to collect all mercury thermostats in Ontario
- In addition, this ISP will collect all types of thermostats removed in Years 1-3 to allow us to gather hard data on the actual percentage of thermostats removed that contain mercury

cleanii

Program Infrastructure and Operation: Collection and Diversion Process



The ISP will use the following four channels to collect end-of-life thermostats in Ontario in Year 1:

1. Contractors/wholesalers
2. Return-to-retail pilots
3. Mail-back pilot
4. Municipal collection

Overall goal is to provide convenient, accessible disposal options at no cost to consumers.

cleanii

Program Infrastructure and Operation: Collection and Diversion Process



1. Contractors/wholesalers:

- This will be the primary collection channel for the ISP because approximately 85-90% of thermostats are sold through this channel so we would expect a similar proportion for return
- ISP will engage HRAI and CIPH member contractor and wholesalers, as well as engage additional businesses via industry promotion and outreach (letters, advertising, meetings, tradeshows, etc.)
- ISP will look for opportunities to leverage utility rebate programs to increase contractor participation

cleanii

Program Infrastructure and Operation: Collection and Diversion Process



1. Contractors/wholesalers:

- Contractors and wholesalers can register for Switch the 'Stat either via the program website (www.switchthestat.ca) or by calling CAF directly
- CAF sends registered contractors and wholesalers the following material — a collection container (United Nations approved for shipping), an introductory letter, program instructions, information brochures to leave behind with their customers and a pre-paid courier waybill
- Contractors remove old thermostats from homes or businesses and replace them with new thermostats
- Contractors place old thermostats intact in the provided collection containers

cleanii

Program Infrastructure and Operation: Collection and Diversion Process



1. Contractors/wholesalers:

- Contractors continue to collect thermostats until their containers are full, or until they are requested to return their container during a collection "sweep"
- The full containers are shipped using the provided pre-paid Puroator waybill
- Puroator picks the containers up from the contractor or wholesaler and ships them directly to Aevitas, the recycling facility
- Once at Aevitas, the thermostats are counted, documented, dismantled and recycled



Program Infrastructure and Operation: Collection and Diversion Process



1. Contractors/wholesalers:

- There are many small one-person contractor businesses, so this ISP will work to engage wholesaler branches as drop-off and promotion points for thermostats, as all small businesses will visit at least one wholesaler on a regular basis to get supplies
- We will still send individual collection containers and free shipping to business that request to have their own collection pail
- Finally, participating contractors/wholesalers will be asked to act as drop-off points for the general public



Program Infrastructure and Operation: Collection and Diversion Process



2. Return-to-retail pilots:

- This channel will be used as a secondary collection channel for the ISP
- ISP will operate pilots in Year 1 to determine the effectiveness as a permanent collection channel
- We are starting with a limited number of events in Year 1 because the proportion of thermostats sold through the retail channel to the DIY market is relatively small (15% or less)



Program Infrastructure and Operation: Collection and Diversion Process



2. Return-to-retail pilots:

- Will engage a number of retail locations to participate on a voluntary basis through an RFP process
- These will be timed, staffed campaigns with associated outreach and promotion
- In-store signage and information on program website to promote the events before the collection weekends
- CAF reps in-store to manage the collection, answer questions and administer customer survey



Program Infrastructure and Operation: Collection and Diversion Process



3. Mail-back pilot:

- This channel will be used as a secondary collection channel for the ISP
- Will be an option for Ontarians living in remote areas
- Program will have a toll-free number to request shipping, and will send shipping supplies with pre-paid shipping direct from the homeowner to the recycler



Program Infrastructure and Operation: Collection and Diversion Process



4. Municipal collection:

- WDO data call results from 2007 show that a limited number of thermostats (approximately 430) were returned through the municipal channel (from only two municipalities)
- This ISP will discourage and work to eventually phase out the municipal channel as a disposal option for thermostats
- This ISP will focus on educating Ontarians to dispose of mercury-containing thermostats through the contractor/wholesaler channel or via designated return-to-retail events



Program Infrastructure and Operation: Collection and Diversion Process



4. Municipal collection:

- ISP will provide signage for municipal depots to promote the Switch the 'Stat program website and phone number
- ISP will supply collection and processing for any thermostats returned to municipal depots, via containers and prepaid shipping for a limited amount of time after starting the ISP (during Years 1 and 2 only)
- The goal is to phase out municipal channels as a disposal option by the end of Year 2



Program Infrastructure and Operation: Accessibility



1. Contractors/wholesalers:

- The ISP will continue to work with the more than 1,300 contractors and wholesalers already participating in Switch the 'Stat
- Will identify and engage additional businesses who are not participating via letters, advertising in industry publications, and participation at industry meetings and tradeshows
- ISP will ask contractors/wholesalers to provide on-the-job collection as well as act as drop-off points for the general public
- ISP will increase registration in this channel by 10% per year



Program Infrastructure and Operation: Accessibility



1. Contractors/wholesalers:

Year	Number of Participating Contractors, Contractor Branches and Wholesaler Branches
Baseline	1,332
Year 1	1,466
Year 2	1,613
Year 3	1,775
Year 4	1,955
Year 5	2,000



Program Infrastructure and Operation: Accessibility



2. Return-to-retail channel:

- The ISP will operate 10 retail take-back events in Year 1
- Will review Year 1 results and increase the number of events in Years 2-5, by at least 3 locations per year, if results show a benefit
- 15% or less of thermostats are sold through the retail channel, so expect to see a proportionately low result for the collection



Program Infrastructure and Operation: Accessibility



3. Mail-back collection:

- Will run a mail-back pilot for remote areas of the province
- We will look at the results from Year 1 in (as well as lessons learned from a similar program that ran in the state of Maine, which saw a collection rate of approximately 7%) to determine the amount of promotion for this channel in Years 2-5



Program Infrastructure and Operation: Accessibility



4. Municipal collection:


- Will supply collection, transport and processing for thermostats collected through this channel in Years 1 and 2
- ISP will undertake an aggressive outreach campaign in Year 1 with contractors/wholesalers and the general public to promote the other collection channels
- Expect to see reduced municipal collection in Year 1 and none in Years 3-5



Program Infrastructure and Operation: Accessibility


5. Other potential collection channels:

- ISP will provide collection containers, transport and shipping if needed at MHSW round-up events
- Will also provide education/outreach materials to promote the Switch the 'Stat program as the correct option for managing mercury thermostats
- Similar approach to the municipal channel should result in reduction and eventual phase out of thermostats being returned via MHSW round-up events in Years 3-5




Program Infrastructure and Operation: End-markets and Material After-use

- Once at Aevitas, the thermostats are documented and dismantled
- Aevitas crushes the glass vial and separates the glass and mercury
- The mercury is triple-distilled at Aevitas and then sent to Bethlehem Apparatus (in Pennsylvania) for final distillation
- The glass is distilled and sent for recycling in fiberglass applications
- The metal components are separated and sent to Wozniak Brothers in Cambridge, Ontario for metal recycling
- The plastic components are separated sent to Durham Shred in Oshawa, Ontario for recycling
- The ISP will consult with the OMEO to determine the ultimate fate of the mercury recovered through the program – options include reuse in products, permanent storage or retirement/stabilization




Program Infrastructure and Operation: Financing

- The ISP will be managed and funded by the manufacturers and distributors that sell and/or import mercury-containing thermostats into Ontario
- Manufacturers and distributors will pay a flat fee toward the administrative costs associated with the program and then fees based on return share of the thermostats collected through the program





Promotion and Education

Make the right switch!



- The ISP will expand on existing Switch the 'Stat program resources, such as the website, and the communications pieces for the contractors (program instructions) and the general public (information brochure), as well as develop new resources as necessary
- The main messages include – why old thermostats need to be recycled, risks of mercury in the waste stream, who funds the program, disposal options and program contact information


Overall goal is to make all consumers and contractors/wholesalers aware of the program and the need to properly dispose of thermostats

Promotion and Education

The types of program resources for the general public/consumers:


- Program website will provide a comprehensive overview of program, and an up-to-date list of disposal locations (with search function by postal code/municipality)
- Printed brochures to be distributed by contractors/wholesalers, at retail locations and at public events
- Printed posters be displayed at retail locations and public events
- Information linked to website/phone number provided on packaging of new thermostats (link from US program to Ontario program)
- Program launch – media/PR strategy



Promotion and Education

The types of program resources for the industry participants:

- Wholesalers, distributors and manufacturers will promote the program to contractors and the general public via their websites, newsletters, signage, etc.
- Wholesalers to provide on-site promotion and education for the small, one-person contractors via signage and printed information, and allow contractors to use their collection containers
- HRAI/CIPH's existing communications channels – website, newsletters, meetings, email updates, etc.
- Link to existing programs that HRAI participates in (BOMA and Green Building Council) to target ICB sector
- General outreach to industry via newsletters, industry publications, trade shows, etc.



Collection and Diversion Targets

The ISP proposes to exceed the Year 1 targets set out in the approved MHSW plan by the following means:

1. Increasing the number of thermostats collected through the contractor/wholesaler channel by 20 per cent (from 11,668 in baseline data to 14,002 units in Year 1);
2. Operating a return-to-retail pilot at 10 locations (assuming 60 units collected per location for 600 units); and
3. Supporting the municipal collection channel (for 430 units) and/or operating a mail-back pilot.

The overall Year 1 collection target for the ISP is 15,032 thermostats (the MHSW Year target is 13,158 thermostats)



Collection and Diversion Targets

Number of mercury-containing thermostats collected

Year	Contractor/Wholesaler Channel	Return-to-Retail	Other (municipal, mail-back)	Total Number of Thermostats	Annual Collection Rate (%) [*]
Baseline (04/04-03/09)	11,668	0	430	12,098	61%
Year 1	12,950	600 (10 locations)	430 (municipal)	13,980	70%
Year 2	14,000	600 (15 locations)	300 (% municipal, % mail-back)	15,400	77%
Year 3	15,200	1,200 (20 locations)	300 (mail-back)	16,900	85%
Year 4	16,400	1,500 (25 locations)	300 (mail-back)	18,400	92%
Year 5	17,700	1,800 (30 locations)	300 (mail-back)	20,000	100%

^{*} Assuming 16,881 thermostats available for collection per year (based on data in section 12.4 of the Draft Final Consolidated MHSW Program Plan (V1) - July 8, 2009)



Collection and Diversion Targets

Comparison of ISP Targets to MHSW Program Targets

Year	ISP Target Collection	Annual Collection Rate (%) [*]	MHSW Program Target Collection	Annual Collection Rate (%) [*]
Year 1	12,950	70%	13,158	66%
Year 2	15,400	77%	14,216	72%
Year 3	16,900	85%	15,570	79%
Year 4	18,400	92%	16,929	85%
Year 5	20,000	100%	18,421	92%

^{*} Assuming 16,881 thermostats available for collection per year (based on data in section 12.4 of the Draft Final Consolidated MHSW Program Plan (V1) - July 8, 2009)



Collection and Diversion Targets

- **Diversion** – One hundred per cent of the thermostats collected through the ISP will be recycled and diverted from landfill.
- **Monitoring** – The quantities collected and diverted will be monitored via monthly reporting from Aevitas. Reporting will include the number of thermostats collected from specific contractors and wholesalers, as well as collection numbers from the individual return-to-retail events and the mail-back channel.
- **Remedial Actions** – If the targets are not met, the ISP will increase communication and enforcement through the contractor/wholesaler channel, as well as examine the results achieved through the return-to-retail and mail-back channels and consider increasing the number of events and promotion around the mail-back option.



Audit

To satisfy the audit requirements, the ISP will investigate and employ the following three types of audits:

1. **Collection results** – the ISP will hire a third-party audit company to verify the data recorded by the ISP are accurate
2. **Vendor standards** – the ISP will ensure that the transporter and the processors/recyclers that are used have the appropriate certificates of approval and/or other documentation, to ensure they are qualified to provide the service required to an appropriately high standard
3. **Finances** – the ISP will undertake a third-party financial audit of program expenses and revenue to ensure transparency.

Required reporting from these audits will be supplied annually to WDO, along with the annual report of program results, and the information will be made publicly available via the program website.



Continuous Improvement and R&D

The ISP will survey contractors and wholesalers and the general public to determine the percentage of Ontario homes that have mercury-containing thermostats and the average rate of removal to reflect an accurate measure of the number of thermostats available for collection each year.

The ISP will collect ALL thermostats throughout Years 1–3 to gather hard data on the percentage of thermostats removed from Ontario homes and businesses that contain mercury.

The ISP will explore the opportunity to increase the number of thermostats available for collection in a short amount of time by possibly employing a public campaign that encourages Ontarians with mercury-containing thermostats to replace them with programmable thermostats to ensure the mercury is managed properly through the ISP and to improve energy efficiency and decrease energy use.



Key Dates




October 28, 2009 – public consultation via webinar

November 16, 2009 – deadline to submit written comments to the ISP (jbentley@summerhillgroup.ca)


December 2009 – CAF to submit final ISP to WDO board of directors for review

July 1, 2010 – MHSW phase 2 program starts

The existing Switch the 'Stat program will continue to operate with funding from the thermostat manufacturers



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Appendix G — Summary of Feedback from the October 28, 2009 Public Webinar with Associated Responses

Webinar Participant Question, Comment or Feedback	ISP Response or Action
Is the ISP 100 per cent funded once implemented in 2010?	Yes, manufacturers and distributors that sell mercury-containing thermostats who have elected to be part of the ISP will be responsible for all of the costs associated with the plan.
How will this program affect mercury-containing thermostats collected at municipal transfer stations and MHSW collection events?	As described in the plan, the ISP will pay for the transport and processing of thermostats collected at municipalities and MHSW collection events; however, the plan will discourage these collection channels in favour of contractor and wholesaler collection or return-to-retail events as these latter channels provide more focused collection channels for thermostats.
Why are recycling centres in smaller or more remote communities not mentioned as possible collection channels in the ISP?	The ISP is focusing on contractor and wholesaler collection or return-to-retail events as these channels provide more focused collection channels for thermostats; however, the plan will track the geographic distribution of participating contractors and wholesalers and will engage alternative collection channels as necessary. This could include recycling centres who could act similar to the wholesalers by housing a collection container, and then receiving shipping and processing at no cost via the ISP.
Why does the plan include so few return-to-retail events as a tool to recover thermostats?	The percentage of thermostats that is sold through retail is relatively small (10–15 per cent) compared to the percentage that is sold through industry channels (85–90 per cent); therefore, we expect a similarly low percentage of thermostats to be returned to retail events. The plan has committed to reviewing collection results after Year 1 and increasing the number of retail events in Years 2–5 based on these results.

<p>Are there any plans by the product manufacturers, such as Honeywell, to offer a rebate program on new thermostats to accelerate the recycling of mercury-containing thermostats?</p>	<p>As described in Section 11 of the plan, the ISP will explore the possibility of a public campaign to encourage the exchange of mercury-containing thermostats with programmable thermostats.</p>
<p>Why is it just thermostats being targeted? Why not other small mercury-containing items?</p>	<p>The MHSW program targets a number of other mercury-containing products. The stewards of those products are responsible for paying for the management of those products either through the MHSW program as operated and managed by Stewardship Ontario or by creating their own ISP. This ISP does not intend to expand to products beyond mercury-containing thermostats because of the targeted collection audience of contractors and wholesalers and the limited amount of products manufactured or distributed by the thermostat stewards.</p>
<p>Where do the numbers for the estimated number of thermostats available for collection come from?</p>	<p>The estimates for the number of mercury-containing thermostats available for collection come from the approved MHSW plan that was prepared by Stewardship Ontario and reviewed and approved by WDO.</p>
<p>What is the estimated cost per thermostat?</p>	<p>The material costs to manage the thermostats include the costs of the collection containers, the shipping of the containers and the collected thermostats and the dismantling/processing of the thermostats, This material cost is estimated at \$5.70 per unit collected. The program also includes fixed costs, such as promotion and education, data tracking and reporting, management fees and third-party audits.</p>
<p>Can places like hospitals, school boards and municipal buildings who replace their own thermostats obtain a collection container to participate in the program?</p>	<p>The ISP will look at opportunities to engage a number of types of contractors, including those involved in building maintenance.</p>

Appendix H — Summary of Feedback from the October 30, 2009 WDO Meeting with Associated Responses

The text below represents questions and comments arising from WDO's review of the Final Draft ISP for mercury-containing thermostats submitted by HRAI dated October 7, 2009. The responses provided by HRAI are in italics following each question.

HRAI Members and Obligated Stewards

WDO QUESTION: As outlined in Appendix C, Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) currently has three member companies. However, Appendix B includes a list of 27 other potentially affected companies and, during our meeting on October 30, the total number of affected companies was estimated to be 40.

The Consolidated Municipal Hazardous or Special Waste (MHSW) Program Plan defines the obligated brand owners and first importers for all Municipal Hazardous or Special Materials (MHSM), including mercury-containing thermostats.

As obligated stewards represent manufacturers with residence in Ontario and first importers of products manufactured outside of Ontario, please comment on the degree to which your current members and those affected companies you will be approaching to join the HRAI ISP currently are or historically were either a) manufacturers of mercury-containing thermostats resident in Ontario or, b) first importers of mercury-containing thermostats manufactured outside of Ontario. Specifically, please provide your assessment of the degree to which HRAI current members and HRAI anticipated members will represent the obligated brand owners and first importers of the mercury-containing thermostats expected to be collected under the ISP.

ISP RESPONSE: HRAI is actively soliciting membership into the ISP from all companies known to have sold mercury-containing thermostats into Ontario. The three companies that have already committed to the ISP represent approximately one-half of all mercury-containing thermostats sold into Ontario. It is our estimate that the companies identified in Appendix B will represent close to 100 per cent of the mercury-containing thermostats expected to be collected under the ISP.

WDO QUESTION: The HRAI ISP is proposing to assume responsibility for collection and management of all mercury-containing generated by residents and small quantity IC&I generators in Ontario.

Should WDO approve the HRAI ISP, members of HRAI would be exempt from steward obligations under the Consolidated MHSW Program. Obligated stewards that are not members of HRAI would remain subject to the requirements of the Consolidated MHSW Program.

Steward fees levied by Stewardship Ontario on the obligated stewards subject to the Consolidated MHSW Program include material management, material-specific and shared R&D and P&E costs and program development and administration costs. Material management costs for mercury-containing thermostats will be based on the quantity of mercury-containing thermostats collected and managed by Stewardship Ontario. If HRAI is successful in collecting all mercury-containing thermostats and Stewardship Ontario does not collect any thermostats, Stewardship Ontario will incur no material management costs and may, therefore, not pursue those stewards that are not members of the HRAI ISP and therefore remain obligated under the Consolidated MHSW Program Plan.

Please comment on the position of the three current members of HRAI regarding assuming full financial responsibility for implementation of the ISP if HRAI is not successful in attracting additional members.

Please indicate the minimum threshold of obligated steward participation in the HRAI ISP in order to provide HRAI with sufficient revenue to ensure on-going financial stability for the ISP.

ISP RESPONSE: We are confident that the majority of thermostat stewards will subscribe to our ISP given that it will exceed the diversion performance expectations of the consolidate MHSW program approved by the Minister and will do so at lower cost.

The majority of the identified North American thermostat stewards already participate in a similar industry-led collection and recycling program in the United States. In the US program, the roughly 25 companies that participate shoulder 100% of program costs, including the costs for collection of thermostats produced by the small number of companies that are not in the program. We fully expect the same response to the HRAI ISP.

The three committed members have already made a financial investment in the program, understanding the risk they face if others do not join in. This is a similar risk they took more than 10 years ago in establishing the program in the US, an initially voluntary program that only attracted additional participants when a number of State governments established stewardship regulations.

Establishing the Quantities Available for Collection

WDO QUESTION: Section 6 (page 7) includes the statement that mercury-containing thermostats are “no longer manufactured by the major manufacturers”, implying that mercury-containing thermostats are manufactured by companies other than the major manufacturers. As sales of mercury-containing thermostats into the Ontario marketplace, both historical sales and current sales, will determine the number of mercury-containing thermostats available for collection, please comment on how HRAI

will determine historical, current and future sales of mercury-containing thermostats to calculate the quantities of mercury-containing thermostats available for collection.

ISP RESPONSE: As described in Section 6 (page 8), the ISP proposes to collect all types of thermostats in order to determine the per cent return share in Years 1-3 that are mercury-containing. In terms of determining the number of mercury-containing thermostats that are currently being sold into Ontario, industry representatives have indicated this number to be very small. However, to determine actual data, HRAI will poll all thermostat manufacturers to determine the current sales of mercury-containing thermostats. In terms of future sales, as stated in Section 6 (page 8), the federal government of Canada has drafted a Risk Management Strategy for mercury-containing products that will prohibit the sale, import or manufacture by 2012.

WDO QUESTION: HRAI is proposing to compile data on the quantity of mercury-containing thermostats remaining in Ontario's residential and IC&I buildings by undertaking a survey of contractors to determine their views on the relative proportion of mercury-containing thermostats of total installed thermostats and by collecting all types of thermostats to determine the relative proportion of mercury-containing thermostats.

As these data are compiled, presumably HRAI will update its data models projecting the quantity of mercury-containing thermostats available for collection, collection targets and possibly its collection strategy and P&E activities. Please describe the process by which HRAI will update and revise the ISP.

ISP RESPONSE: HRAI will review annual collection data, which will include information about which channels the thermostats were return from, and will report this data to WDO and the Ministry of the Environment (MOE). The ISP will have an advisory committee that will also review the data and will be involved in revising the collection targets, with annual input and feedback from WDO and MOE.

Setting and Reporting on Targets

WDO QUESTION: Regarding collection targets, the information presented in the first paragraph on page 16 under the title 'Targets' is different from the information set out in the table on page 17 titled 'Collection Targets – Number of mercury-containing thermostats collected'. Please clarify.

ISP RESPONSE: The targets in the first paragraph of page 16 have been updated to match the targets specified in the table on page 17.

WDO QUESTION: Regarding recycling targets, please identify the typical composition of mercury-containing thermostats including:

- a. The quantity of mercury
- b. The quantity of ferrous and other metals
- c. The quantity and types of plastic resins
- d. Any other materials

Please indicate how each of these materials is managed by the primary and/or downstream service providers to HRAI. In particular, are these materials stockpiled, recycled, landfilled or consumed as fuel. If recycled, please describe the downstream markets for each material.

ISP RESPONSE: Though models vary considerably, the typical composition of a mercury-containing thermostat is as follows:

Total weight of an average thermostat = 114 grams

3.5 grams of mercury

0.5 grams of glass

40 grams of plastic

70 grams of metals

As described in Section 7 (page 14), the collected thermostats are sent to Aevitas (a provincially-licensed hazardous waste facility). Aevitas dismantles the thermostats and has the ability to crush the mercury-containing glass vial on-site and then triple-distill the mercury and distill the glass. The mercury is sent to Bethlehem Apparatus for final distillation and then sold for re-use in products and processes. Aevitas currently sends the glass for recycling in fiberglass applications and the metals and plastics to downstream processors. Since filing the Draft Final ISP on October 9, 2009, CAF has learned that the plastics recovered from thermostats are mixed types, and therefore best if bailed together then shredded into pellets which can be sold to manufacturers to be used in new products in a 30/70 mix of recycled to new plastics. Additionally the metals found in thermostats are a mix of iron, copper, nickel and aluminum, which all have high re-use/recycling value.

WDO QUESTION: The HRAI ISP proposes to collect all types of thermostats, both mercury-containing and non-mercury-containing, in Years 1 to 3 to gather data on the relative proportion that contain mercury. Will HRAI report on the quantity of mercury-containing thermostats separately in order to track collection and recycling of mercury-containing thermostats separately from non-mercury containing thermostats?

ISP RESPONSE: Yes, the types of thermostats (mercury- and non-mercury-containing) will be reported to CAF and HRAI on a monthly basis. These data will be tracked and reported to WDO and MOE on an annual basis.

Accessibility

WDO QUESTION: Please identify how HRAI will assess the performance of the return-to-retail pilot campaigns when determining whether to cancel, continue or expand these collection systems.

ISP RESPONSE: From the information that is currently available, we anticipate the at-retail collection to be approximately 10 per cent of the overall collection rate, and as such are intending to increase this channel by five events per year. If the retail collection rate is higher than expected, the advisory committee will consider increasing the number of events by more than five per year. An additional factor in operating the return-to-retail events is the additional costs to have the events staffed. As such, the advisory committee will need to determine cost versus collection results in determining a potential further increase in return-to-retail events in Years 2-5.

Material Management System

WDO QUESTION: Please describe the process used by the various collectors (contractors, wholesalers, retailers, municipalities) to manage broken mercury-containing thermostats.

ISP RESPONSE: Under the current Switch the 'Stat program, CAF provides information about proper procedures to deal with a broken thermostat to participating contractors and wholesalers. This information will also be provided to the trained representatives for the return-to-retail events.

WDO QUESTION: Regarding the proposed mail-back collection option:

- a. Has Canada Post agreed to transport mercury-containing thermostats through the postal system?
- b. Please comment on the experience in Maine's mail-back program regarding breakage and the risk and implications of breakage in the HRAI ISP.

ISP RESPONSE: Since submitting the Draft Final ISP on October 9, 2009, CAF has learned that Canada Post will not transport mercury-containing thermostats, and as such we have contacted Purolator as a transport option for the remote "send-back" channel. CAF will source smaller, individual collection containers that are sealable to be used during transport by Purolator. Similar to the larger containers used for the contractors, a sealable shipping container will ensure that there is no risk associated with transportation via this channel.

WDO QUESTION: The HRAI ISP proposes to collect all types of thermostats, both mercury-containing and non-mercury-containing, in Years 1 to 3 to gather data on the relative proportion that contain mercury. How will the non-mercury containing thermostats be managed?

ISP RESPONSE: The non-mercury-containing thermostats are composed of similar metals and plastics as the mercury-containing thermostats, and as such will be managed via the same recycling processes.

WDO QUESTION: Please describe vendor standards set by HRAI, the vendor selection process utilized by HRAI and the process to audit service providers against the vendor standards.

ISP RESPONSE: Between December 2009 and July 1, 2010, HRAI and CAF will undertake a review of the vendor standards that exist for other stewardship programs in Ontario and British Columbia and will formalize the vendor standards, and the selection process for vendors and auditors. We will share the standards and selection criteria with WDO and MOE in advance of the official July 1, 2010 program implementation date.

Promotion and Education

WDO QUESTION: Please provide the link to the Switch the 'Stat website that displays a map showing existing collection sites by geographic location.

ISP RESPONSE: The CAF website is currently undergoing revision and updating, and as such the graphic of the map of Ontario has been temporarily removed from the Switch the 'Stat website. However, the full lists of participating contractors and wholesalers broken down by region and municipality are still available on the site at www.switchthestat.ca/eng/participating-contractors.php and www.switchthestat.ca/eng/participating-wholesalers.php.

WDO QUESTION: Please indicate the budget to be utilized by HRAI for the P&E activities described in Section 8 on page 14.

ISP RESPONSE: HRAI respectfully declines to share its budget for these activities.

Interface between HRAI ISP and Consolidated MHSW Program Plan

WDO QUESTION: Please describe the outcome of discussions between HRAI and Stewardship Ontario regarding arrangements to address:

- a. The potential collection of mercury-containing thermostats in Stewardship Ontario's MHSW collection system.
- b. Any fees due to Stewardship Ontario by HRAI members related to common and program development costs incurred prior to the date on which an approved HRAI ISP would commence.

ISP RESPONSE: Because HRAI is fully prepared to collect all thermostats from all stewards, and because we believe that the substantial majority of thermostat stewards will choose to join our ISP, HRAI has not been in touch with Stewardship Ontario

regarding the arrangements detailed above. Further, we have been advised by legal counsel that an approved ISP is exempt from fees payable to an IFO, and that the Waste Diversion Act does not provide either Stewardship Ontario, WDO or even the Minister with any residual authority to reinstate this obligation.

Appendix I — PowerPoint Presentation from the December 3, 2009 WDO Public Affairs Committee Meeting




ONTARIO INDUSTRY STEWARDSHIP PLAN FOR MERCURY-CONTAINING THERMOSTATS

WDO Public Affairs Committee Meeting

December 3, 2009


Agenda

- ISP Objectives
- Switch the 'Stat Program Overview
- ISP Participants
- Material Description – *Product Definition, Product Lifespan, Available for Collection*
- Program Infrastructure and Operation – *Collection and Diversion Process, Accessibility*
- Promotion and Education
- Collection and Diversion Targets
- Continuous Improvement and R&D
- Key Dates
- Q&A




ISP Objectives

- The ultimate goal of this ISP is to develop and deliver a program in Ontario that will achieve objectives that are similar to or better than the objectives for mercury-containing thermostats as stated in the approved consolidated MHSW program plan, using a program infrastructure that is already operational and achieving results
- Secondary goal is to create a program that can be expanded nationally – for example, British Columbia has similar legislation that comes into effect in July 2010




ISP Objectives


- The ISP will build on the existing Switch the 'Stat infrastructure of contractor/wholesaler collection to include additional collection channels, such as return-to-retail and mail-back options, to increase the program's accessibility and collection results
- The audience targeted through the ISP is residential and the small institutional, commercial and industrial (IC&I) sector



Switch the 'Stat Background



- The ISP will build on the existing Switch the 'Stat program, which was developed by Clean Air Foundation in 2006
- Switch the 'Stat encourages the installation of energy-efficient programmable thermostats, while simultaneously diverting the older mercury-containing thermostats from landfill to a secure storage facility
- The program is fully operational in Ontario with more than 1,300 participating HVAC contractors and wholesalers
- It is an ongoing year-round program with links to existing provincial and regional utility incentives



ISP Participants

HRAI – Heating, Refrigeration and Air Conditioning Institute of Canada



CIPH – Canadian Institute of Plumbing and Heating




Manufacturers signed on:
Emerson Electric Corporation/White-Rodgers
Honeywell Corporation
York/Johnson Controls





Material Description: Product Definition

- This ISP covers "mercury thermostats" defined as products that use mercury switches to sense and control room temperature through communication with HVAC equipment
- Each switch in a thermostat contains 2.3 grams of mercury, and a thermostat can contain 1-4 switches (the average is 1.4 switches per thermostat)
- Mercury thermostats are no longer manufactured by the major manufacturers
- The federal government is working on a risk management strategy that will ban the sale, import and manufacture of all mercury-containing products in to Canada




Material Description: Product Lifespan

- Thermostats are designed to last 20-30 years, however, the majority are replaced more frequently (i.e., every 7-10 years) as a result of renovations, HVAC equipment upgrades, etc.


Material Description: Available for Collection

- Mercury thermostats are an obsolete material
- Over time, the amount available for collection will decrease to the point where there will be none left in Ontario homes and businesses
- There is variation in the estimates of the number of thermostats with mercury that are available for collection on an annual basis
- The Final Consolidated MHSW Program Plan estimates that there were 19,881 mercury-containing thermostats available for collection in Ontario in 2008



Material Description: Available for Collection

- Given the range of estimates around what is available for collection, as well as the uncertainty in the product lifespan, this ISP will undertake an R&D project in Year 1 in the form of a contractor survey to determine the percentage of Ontario homes that still contain mercury thermostats and the average rate of removal
- This data will also be used to estimate the length of time this collection program will need to run in order to collect all mercury thermostats in Ontario
- In addition, this ISP will collect All types of thermostats removed in Years 1-5 to allow us to gather hard data on the actual percentage of thermostats removed that contain mercury




Program Infrastructure and Operation: Collection and Diversion Process

The ISP will use the following four channels to collect end-of-life thermostats in Ontario in Year 1:

1. Contractors/wholesalers
2. Return-to-retail pilots
3. Mail-back pilot
4. Municipal collection


Overall goal is to provide convenient, accessible disposal options at no cost to consumers.



Program Infrastructure and Operation: Collection and Diversion Process

1. Contractors/wholesalers:


- This will be the primary collection channel for the ISP because approximately 85-90% of thermostats are sold through this channel so we would expect a similar proportion for return
- ISP will engage HRAI and CIPH member contractor and wholesalers, as well as engage additional businesses via industry promotion and outreach (letters, advertising, meetings, tradeshows, etc.)
- ISP will look for opportunities to leverage utility rebate programs to increase contractor participation



Program Infrastructure and Operation: Collection and Diversion Process

1. Contractors/wholesalers:


- Contractors and wholesalers can register for Switch the Stat either via the program website (www.switchthestat.ca) or by calling CAF directly
- CAF sends registered contractors and wholesalers the following material — a collection container (United Nations approved for shipping), an introductory letter, program instructions, information brochures to leave behind with their customers and a pre-paid courier waybill
- Contractors remove old thermostats from homes or businesses and replace them with new thermostats
- Contractors place old thermostats intact in the provided collection containers



Program Infrastructure and Operation: Collection and Diversion Process

1. Contractors/wholesalers:


- Contractors continue to collect thermostats until their containers are full, or until they are requested to return their container during a collection "sweep"
- The full containers are shipped using the provided pre-paid Puroletor waybill
- Puroletor picks the containers up from the contractor or wholesaler and ships them directly to Aevitas, the recycling facility
- Once at Aevitas, the thermostats are counted, documented, dismantled and recycled



Program Infrastructure and Operation: Collection and Diversion Process

1. Contractors/wholesalers:


- There are many small one-person contractor businesses, so this ISP will work to engage wholesaler branches as drop-off and promotion points for thermostats, as all small businesses will visit at least one wholesaler on a regular basis to get supplies
- We will still send individual collection containers and free shipping to business that request to have their own collection path
- Finally, participating contractors/wholesalers will be asked to act as drop-off points for the general public



Program Infrastructure and Operation: Collection and Diversion Process

2. Return-to-retail pilots:


- This channel will be used as a secondary collection channel for the ISP
- ISP will operate pilots in Year 1 to determine the effectiveness as a permanent collection channel
- We are starting with a limited number of events in Year 1 because the proportion of thermostats sold through the retail channel to the DIY market is relatively small (15% or less)



Program Infrastructure and Operation: Collection and Diversion Process

2. Return-to-retail pilots:


- Will engage a number of retail locations to participate on a voluntary basis through an RFP process
- These will be timed, staffed campaigns with associated outreach and promotion
- In-store signage and information on program website to promote the events before the collection weekends
- CAF reps in-store to manage the collection, answer questions and administer customer survey



Program Infrastructure and Operation: Collection and Diversion Process

3. Mail-back pilot:

- This channel will be used as a secondary collection channel for the ISP
- Will be an option for Ontarians living in remote areas
- Program will have a toll-free number to request shipping, and will send shipping supplies with pre-paid shipping direct from the homeowner to the recycler



Program Infrastructure and Operation: Collection and Diversion Process



4. Municipal collection:

- WDO data call results from 2007 show that a limited number of thermostats (approximately 430) were returned through the municipal channel (from only two municipalities)
- This ISP will discourage and work to eventually phase out the municipal channel as a disposal option for thermostats
- This ISP will focus on educating Ontarians to dispose of mercury-containing thermostats through the contractor/wholesaler channel or via designated return-to-retail events



Program Infrastructure and Operation: Collection and Diversion Process



4. Municipal collection:

- ISP will provide signage for municipal depots to promote the Switch the 'Stat program website and phone number
- ISP will supply collection and processing for any thermostats returned to municipal depots, via containers and prepaid shipping for a limited amount of time after starting the ISP (during Years 1 and 2 only)
- The goal is to phase out municipal channels as a disposal option by the end of Year 2



Program Infrastructure and Operation: Accessibility



1. Contractors/wholesalers:

- The ISP will continue to work with the more than 1,300 contractors and wholesalers already participating in Switch the 'Stat
- Will identify and engage additional businesses who are not participating via letters, advertising in industry publications, and participation at industry meetings and tradeshows
- ISP will ask contractors/wholesalers to provide on-the-job collection as well as act as drop-off points for the general public
- ISP will increase registration in this channel by 10% per year



Program Infrastructure and Operation: Accessibility



1. Contractors/wholesalers:

Year	Number of Participating Contractors, Contractor Branches and Wholesaler Branches
Baseline	1,332
Year 1	1,466
Year 2	1,613
Year 3	1,775
Year 4	1,953
Year 5	2,000



Program Infrastructure and Operation: Accessibility



2. Return-to-retail channel:

- The ISP will operate 10 retail take-back events in Year 1
- Will review Year 1 results and increase the number of events in Years 2-3, by at least 3 locations per year, if results show a benefit
- 15% or less of thermostats are sold through the retail channel, so expect to see a proportionately low result for the collection



Program Infrastructure and Operation: Accessibility



3. Mail-back collection:


- Will run a mail-back pilot for remote areas of the province
- We will look at the results from Year 1 in to determine the amount of promotion for this channel in Years 2-3



Program Infrastructure and Operation: Accessibility


4. Municipal collection:

- Will supply collection, transport and processing for thermostats collected through this channel in Years 1 and 2
- ISP will undertake an aggressive outreach campaign in Year 1 with contractors/wholesalers and the general public to promote the other collection channels
- Expect to see reduced municipal collection in Year 1 and none in Years 3-5




Promotion and Education

Make the right switch!



- The ISP will expand on existing Switch the 'Stat program resources, such as the website, and the communications pieces for the contractors (program instructions) and the general public (information brochure), as well as develop new resources as necessary
- The main messages include – why old thermostats need to be recycled, risks of mercury in the waste stream, who funds the program, disposal options and program contact information


Overall goal is to make all consumers and contractors/wholesalers aware of the program and the need to properly dispose of thermostats



Promotion and Education

The types of program resources for the general public/consumers:


- Program website will provide a comprehensive overview of program, and an up-to-date list of disposal locations (with search function by postal code/municipality)
- Printed brochures to be distributed by contractors/wholesalers, at retail locations and at public events
- Printed posters be displayed at retail locations and public events
- Information linked to website/phone number provided on packaging of new thermostats (link from US program to Ontario program)
- Program launch – media/PR strategy



Promotion and Education

The types of program resources for the industry participants:

- Wholesalers, distributors and manufacturers will promote the program to contractors and the general public via their websites, newsletters, signage, etc.
- Wholesalers to provide on-site promotion and education for the small, one-person contractors via signage and printed information, and allow contractors to use their collection containers
- HRAI/CIPH's existing communications channels – website, newsletters, meetings, email updates, etc.
- Link to existing programs that HRAI participates in (BOMA and Green Building Council) to target ICB sector
- General outreach to industry via newsletters, industry publications, trade shows, etc.




Collection and Diversion Targets

The ISP proposes to exceed the Year 1 targets set out in the approved MHSW plan by the following means:

- Increasing the number of thermostats collected through the contractor/wholesaler channel by 20 per cent (from 11,668 in baseline data to 14,002 units in Year 1);
- Operating a return-to-retail pilot at 10 locations (assuming 60 units collected per location for 600 units); and
- Supporting the municipal collection channel (for 430 units) and/or operating a mail-back pilot

The overall Year 1 collection target for the ISP is 15,032 thermostats (the MHSW Year target is 13,136 thermostats)




Collection and Diversion Targets

Number of mercury-containing thermostats collected

Year	Contractor/Wholesaler Channel	Return-to-Retail	Other (municipal, mail-back)	Total Number of Thermostats	Annual Collection Rate (%) [*]
Baseline (04/09-03/10)	11,668	0	430	12,098	61%
Year 1	14,002	600 (10 locations)	430 (municipal)	15,032	70%
Year 2	14,000	600 (15 locations)	500 (1% municipal, 1% mail-back)	15,100	77%
Year 3	15,200	1,200 (20 locations)	500 (mail-back)	16,900	85%
Year 4	16,400	1,500 (25 locations)	500 (mail-back)	18,400	93%
Year 5	17,700	1,800 (30 locations)	500 (mail-back)	20,000	100%

^{*} Assuming 16,861 thermostats available for collection per year (based on data in Section 22.4 of the Draft Final Consolidated IIR/DIR Program Plan (11-12-10-09))



Collection and Diversion Targets

Comparison of ISP Targets to MHSW Program Targets

Year	ISP Target Collection	Annual Collection Rate (%)*	MHSW Program Target Collection	Annual Collection Rate (%)*
Year 1	13,400	70%	13,156	68%
Year 2	15,400	77%	14,316	72%
Year 3	16,900	85%	15,970	79%
Year 4	18,400	92%	16,929	82%
Year 5	20,000	100%	18,421	92%

*Assuming 19,861 thermostats available for collection per year (based on data in section 22.4 of the Draft Final Considered MHSW Program Plan (1) – July 6, 2009)



Continuous Improvement and R&D

The ISP will survey contractors and wholesalers and the general public to determine the percentage of Ontario homes that have mercury-containing thermostats and the average rate of removal to reflect an accurate measure of the number of thermostats available for collection each year.

The ISP will collect all thermostats throughout Years 1–3 to gather hard data on the percentage of thermostats removed from Ontario homes and businesses that contain mercury.

The ISP will explore the opportunity to increase the number of thermostats available for collection in a short amount of time by possibly employing a public campaign that encourages Ontarians with mercury-containing thermostats to replace them with programmable thermostats to ensure the mercury is managed properly through the ISP and to improve energy efficiency and decrease energy use.



Key Dates

- October 9, 2009 – ISP posted to public website
www.summitgroup.ca/eng/impact/programs/switch-2009-09-09-plan.php
- October 28, 2009 – public consultation via webinar
- November 16, 2009 – deadline to submit written comments to the ISP
- December 3, 2009 – WDO PAC meeting
- December 2009 – CAF to submit final ISP to WDO board of directors for review
- July 1, 2010 – MHSW phase 2 program starts

The existing Switch the 'Stat program will continue to operate with funding from the thermostat manufacturers



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