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THERMOSTAT RECYCLING

Annual Report to the Director

2021 Calendar Year

BRITISH COLUMBIA

Submitted to:

Director, Extended Producer Responsibility Programs

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The Heating, Refrigeration
and Air Conditioning
Institute of Canada

Thermostat Recovery Program 2021 Report to Director, Waste Management

June 24, 2022

This annual report is issued by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) in accordance with the British Columbia Recycling Regulation (Reg. 449/2004). The 2021 annual report documents the Thermostat Recovery Program's activities and results in British Columbia from January 1 to December 31, 2021.

Any questions or comments about this report as well as the Thermostat Recovery Program operations should be directed to HRAI at:



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1. EXECUTIVE SUMMARY

Products within plan	Thermostats (electronic and mercury-containing)
Program website	www.hrai.ca/trp *

Reference		Summary (5-bullet maximum)
Recycling Reg. 449/2004	TRP Annual Report 2021	
Part 2, Section 8(2)(a)	3. Public Education Materials and Strategies	- Print ads and e-blasts with the Municipal Leader and HPAC magazines; ads in regional district recycling calendars - Outreach through HRAI's Weekly Newsletter - Collaborations through Stewardship Agencies of BC (SABC) - Recycling Council of British Columbia (RCBC) hotline and Recyclepedia
Part 2, Section 8(2)(b)	4. Collection System and Facilities	387 total collection points 8 new collection points (3 of which are designated drop-off locations) 1 main collection facility (1 fully phased out by end 2017) - Collection points in 27 regional districts
Part 2, Section 8(2)(c)	5. Product Environmental Impact Reduction, Reusability and Recyclability	4,536 mercury-containing vessels collected[†] 3,050 electronic thermostats recycled 91.90 kilograms of metals recycled 221.51 kilograms of plastics collected, but not recycled due to global market changes (See Section 6 for details). 0 new mercury-containing thermostats sold into the market
Part 2, Section 8(2)(d)	6. Pollution Prevention Hierarchy and Product / Component Management	- Recovered thermostats are not suitable for reuse - New thermostat designs do not contain mercury, and are more energy efficient than older mercury-containing models - Over 99% of metal components are recycled with a high degree of certainty - In 2021, approximately 67% of all collected materials were not recycled due to global market changes (See Section 6 for details)
Part 2, Section 8(2)(e)	7. Product Sold and Collected and Recovery Rate[‡]	- Collected 3,470 mercury containing thermostats, 3,050 electronic thermostats, and 501 loose mercury vessels - Adjusted total: 3,828 mercury containing thermostats and 3,050 electronic thermostats, for a total of 6,878 collected (49.27% increase from 2020 collection results)
Part 2, Section 8(2)(e.1)	9. Plan Performance	See 9.2 for breakdown per regional district.

* In 2016, HRAI took full management of Scout Environmental's *Switch the 'Stat* (S.T.S.) program, fully re-branding it and renaming it Thermostat Recovery Program (TRP), website found at www.hrai.com/trp.

[†] Although mercury-containing thermostats can contain anywhere between 1 and 4 switches, a study conducted by Veolia on behalf of the U.S.'s Thermostat Recycling Corporation found the average number of mercury switches per thermostat to be 1.4. This continues to be the industry standard weight conversion factor used to estimate mercury-containing vessels collected as all thermostats manufactured since 2008 have not included mercury components in their designs.

[‡] Thermostat Recovery Program does not report on Product Sold or Recovery Rate; see [Section 7](#) for details.

Reference		Summary (5-bullet maximum)
Recycling Reg. 449/2004	TRP Annual Report 2021	
Part 2, Section 8(2)(f)	8. Summary of Deposits, Refunds, Revenues and Expenses	N/A
Part 2, Section 8(2)(g)	9. Plan Performance[§]	N/A

2. PROGRAM OUTLINE

The Thermostat Recovery Program (TRP) is the designated program for managing all types of thermostats, both electromechanical (mercury-containing) and electronic models, in British Columbia. The British Columbia Stewardship Plan for Thermostats is the unofficially approved five year plan for recovering these products, and spans a timeline of July 1, 2015 to June 30, 2020.

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

Thermostat Recovery Program is funded by thermostat manufacturers who have sold thermostats into Canada and a complete list of manufacturers is available online at www.hrai.ca/trp. The program is fully administered by the Heating, Refrigeration, and Air Conditioning Institute of Canada (HRAI) on behalf of the manufacturers, and supported by the Canadian Institute of Plumbing and Heating (CIPH).

In accordance with the program plan, the TRP collects thermostats in the province of British Columbia through one primary collection channel (HVAC contractors/wholesalers & municipal/regional district collection centres) and two secondary collection channels (drop-off locations and a send-back option). Based on estimates that 85 to 90% of thermostats sold in British Columbia are done through contractors and wholesalers in the HVAC industry, this group adopts the primary channel through which all types of thermostats are recovered.

In 2021, the program registration process was completely automated into an online form on the TRP’s website. This facilitated the new participant onboarding for both users and administrators, eliminating the required component of printing and signing the form by incorporating a checkbox for registrants to read and agree to the terms of the *Transportation of Mercury-containing Thermostat Agreement*.

All participants have the option to register as a public drop-off location, an option often used by wholesalers, recycling centres, regional districts, and municipal depots. The TRP website offers an up-to-date public drop-off location lookup directory, which lists all participating TRP drop-off locations within a 50 km radius of a Canadian postal code.

[§] Targets specified in the approved product stewardship plan are not applicable to the 2021 reporting year, therefore program performance will not be reported in relation to targets throughout this annual report.

Upon registering as a Collection Point or a Public Drop-Off Location, participants receive a large collection pail and pre-paid Purolator return shipping waybill delivered to their location for thermostat collections. Once returned for recycling, these participants automatically receive replacement materials for continued collections. Those who register under the program's Send-it Back option (often residents and consumers unable to reach a Public Drop-Off Location) instead receive a small collection pail and pre-paid Purolator return waybill to be used to return a small amount of thermostats on a one-time basis. Together, these channels comprise all of the programs participants, or collection points, as they shall be referred to throughout this report (see [Section 4](#) for term definitions).

As per the requirements under the British Columbia Recycling Regulation, this report has been prepared to summarize the program activities undertaken during the calendar year of 2021, and will be posted on the program website at www.hrai.ca/trp.

3. PUBLIC EDUCATION MATERIALS AND STRATEGIES

3.1. Initiatives

Thermostat Recovery Program operates by collecting thermostats through existing businesses and infrastructure, referred to in the program plan as "collection channels." As described in [Section 2](#), the program uses one main collection channel (HVAC contractors/wholesalers) and two secondary collection channels (drop-off locations and send-back option) to recover end-of-life mercury-containing and electronic thermostats.

Continuing to build on the foundation laid since 2011, in 2021 the TRP team began closely collaborating with HRAI's Director of Marketing & Communications to develop a 2021 TRP Marketing Plan. This strategic plan identifies challenges and areas of improvement in current marketing and outreach initiatives, and details a project management plan and critical path with the goal of lifting the visibility and awareness of the program while promoting uptake and engagement with manufacturers and participating collection points. Key areas of focus in 2021 were:

- To strengthen communication efforts with registered participants, maintaining commitment to the program and increasing thermostat collections;
- To broaden the reach and variety of communication channels used, improving program accessibility and raising awareness on responsible thermostat;
- To engage thermostat manufacturers to commit to building visibility to their audience for their involvement with the TRP;
- To extend outreach efforts to the general public, encouraging new participants to register and further expanding program reach and awareness, in turn diverting more thermostats from landfill.

To achieve these goals, the following initiatives were undertaken:

Initiative	Details	Audience/ Channel	Type of Outreach
Ongoing outreach with HRAI National Office	HRAI's Spring and Fall review magazines, as well as several editions of the bi-weekly newsletter featured TRP program updates and information to register and participate	Contractors, Wholesalers	Industry outreach (print)
BC Stewards	Formalized association of all BC stewardship associations, allowing stewards to present a united front and communicate collaboratively with various stakeholder groups	General Public	Print media (Online)

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Initiative	Details	Audience/ Channel	Type of Outreach
Stewardship Agencies of BC (SABC)	- BC Recycles website provides an overview of each product stewardship organization (including TRP) - Recycling Handbook, provides an overview of each product stewardship organization (including TRP) - Action Plan developed by SABC to ensure the success of all programs, investigate potential gaps, and address feedback from BC Ministry of the Environment		
Recycling Council of BC (RCBC)	Info about the program (materials accepted at nearest drop-off locations) made available to the public through a hotline, website and online tool (the Recyclepedia app). In 2021: 88 hotline inquiries 384 website searches 210 app searches	BC Waste Management Industry General Public	Online & Phone
Regional District Media	- Regional District of Central Okanagan lists the TRP with a link on their Recycle Coach app and website. - TRP ad and link to drop off locations included regional district calendars for the district of Central Okanagan and City of Penticton.	HPAC Magazine	Print Media (Online)
Industry Magazines	- TRP advertisements included in all four seasonal issues of their Municipal Leader Magazine - TRP advertisements included in all seven issues of HPAC Magazine	HVAC Industry General Public	Print Media (Online)

In addition to the efforts listed above, the program is promoted through various voluntary channels. The outcomes of the program's outreach initiatives will be used along with collection trends to inform future program performance targets. For examples of outreach initiatives, please refer to [Appendix A](#).

3.2. Resources

To support these initiatives, many of the program's promotional and educational materials were redesigned to further guide and support program participants. These materials are described below.

1. **Program Website:** The program's website www.hrai.ca/trp continues to be one of the primary educational tools, featuring content designed to educate contractors, wholesalers, and the general public. The site features a program overview, a description of mercury and its associated impacts, an online program registration form, and more. Other noteworthy features on the website are the Public Drop-off Locations lookup tool and an up-to-date cumulative collections counter that indicates the total thermostats and mercury vessels collected, as well as the weight of mercury recovered, in kilograms.
2. **Program Information Documents:** The program information document used in 2021 was an updated version of that used in previous years, containing the pertinent information for new registrants; next steps and collection guidelines. Upon registering, participants receive a *Welcome*

Letter via email, including the *Program Information Document* attached, confirming receipt of their registration form and the order of their program collection kit. This letter helps new registrants manage expectations, address program inquiries and develop commitment to the program.

3. **Posters:** Newly-registered participants designated as drop-off locations are automatically sent a poster upon registration, along with their collection kits. These colourful, eye-catching promotional posters are available to all participants for on-site display.
4. **Brochures:** Printed promotional brochures are automatically sent to new participants upon registration, based on their collection type and market audience, i.e. consumer-facing brochures for contractors, municipal and public recycling depots, and industry-facing brochures for wholesalers and recycling centres. These are available at request for distribution to participants, and include facts about the hazards of mercury and the Thermostat Recovery Program, with instructions on how to participate.
5. **Collection Container Labels:** All of the TRP's collection pails are labeled with the program logo and branding, with warnings to restrict collections to thermostats only and indicate the presence of mercury-containing products. This serves as a visual reminder for participants and helps ensure compliance with Manitoba shipping regulations and program goals.
6. **E-Newsletter Sweeps:** During the 2021 calendar year, the TRP combined its e-newsletter and collection sweeps postcard efforts to create an eye-catching e-newsletter campaign with a call to action for participants to return collection pails that are more than half full. Throughout the year, the TRP shared four e-blasts via *MailChimp* and urged program participants to continue collection efforts.
7. **Canada's Annual Waste Reduction Week:** The week of October 18–24, 2021 marked Canada's 20th Annual Waste Reduction Week. In celebration of this important initiative, the TRP team sent members an e-blast on October 20th, recognizing their continuous efforts in helping divert waste from landfill, and support Canada's transition to a circular economy.

4. COLLECTION SYSTEM AND FACILITIES

4.1. Collection System Overview

The Thermostat Recovery Program collection system is comprised of the following:

1. Collection points (program participants)
 - Comprised of the aforementioned 3 collection channels (details in [Section 4.1.2.](#))
 - Participants collect thermostats in program-provided pails before returning them to the collection facility
2. Collection facilities
 - Aevitas Inc. continues to be the program's sole collection facility, receiving and processing the contents of thermostat collection pails from all participants
3. Consolidation points
 - In the past, the program had a secondary consolidation point (Tri-Arrow Industrial Recovery), however this has not been the case since 2016

- All vessels are shipped to a retort facility at least once a year**
- 4. Retort facility
 - Final processing site of Hg vessels
 - Bethlehem Apparatus Company in PA, USA

The relationship between these facilities is demonstrated in the flow chart below^{††}:

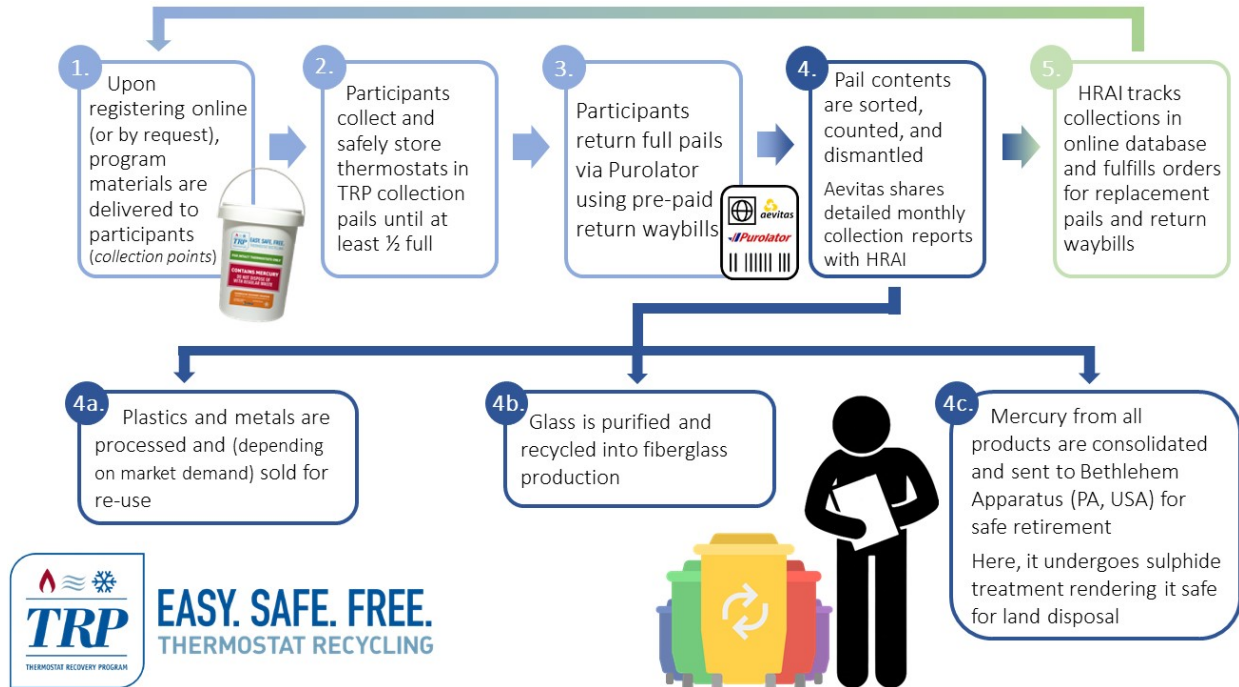


Figure 1. Thermostat Recovery Program collection process in Canada (incl. British Columbia)

4.1.1. Collection Facilities

In 2021, Aevitas Inc. in Ayr, Ontario continued to serve as the TRP's sole consolidation point for all thermostat collections from BC, housing Canada's only approved mercury retort facility ([Aevitas' website](#)). Upon receiving collection pails from participants across the country, Aevitas processes the materials returned, keeping detailed monthly records of the pail contents and properties. These reports include the source company and contact as indicated on the return waybill, the total number of thermostats in each pail (including a breakdown by type and brand-holder), the number of mercury vessels, the weight of plastic and metal components, as well as any off-spec materials included in the pails. These monthly collection reports are reviewed and uploaded into the TRP's database for record keeping and performance tracking.

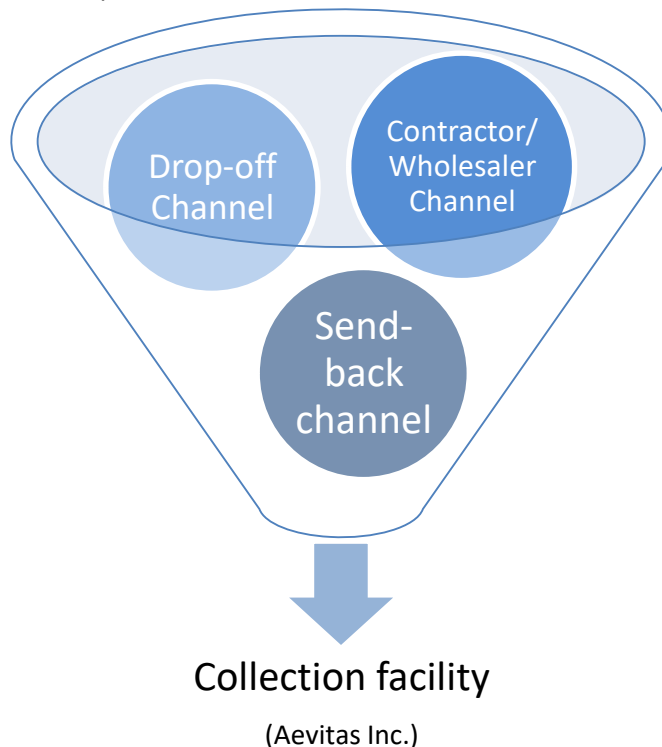
4.1.2. Collection Points

The Thermostat Recovery Program uses three collection channels: the contractor/wholesaler channel, public drop-off locations, and the send-back channel. Individual program participants in each of the

** In 2021, there were no shipments from Aevitas Inc. to Bethlehem Apparatus which included mercury recovered through the TRP's collection stream. On March 11, 2022, Aevitas confirmed with HRAI that the next shipment of TRP recovered mercury is anticipated within 2 months.

†† Please note that plastics collected were not sent to down processors (Step #4a) due to the Chinese National Sword Policy banning solid waste imports (details in [Section 6](#)).

channels are referred to as “collection points” or “participants”. These participants play an integral role in the program’s collection operations, accumulating end-of-life thermostats in TRP-provided collection containers until they are full, at which point they use their pre-paid Purolator return waybill to return their thermostats to Aevitas Inc. This process is illustrated below:



As outlined in the stewardship plan, the program has a goal of 420 registered collection points by 2030. Through the outreach initiatives described above, 8 new businesses registered as collection points for end-of-life thermostats in 2021, 3 of which elected to act as drop-off locations.

The following table lists the collection points registered in 2021, indicating the type of business, whether they opted to be a drop-off location and the city where the business is located.

Company Name	Type	Drop Off?	City
Stericycle ULC	Recycling Centre	No	Surrey
Refrigerative Supply Ltd - Abbotsford	Wholesaler	No	Abbotsford
Pender Island Recycling Society	Recycling Centre	Yes	Pender Island
GFL Squamish	Recycling Centre	Yes	Squamish
GFL Squamish - Landfill	Recycling Centre	Yes	Squamish
Hilltop Plumbing and Heating	Contractor	No	White Rock
Niki Hills	Consumer	No	Revelstoke
Exchange Energy	Contractor	No	Duncan

4.2. Coverage in Regional Districts

During 2021 database housekeeping practices, the TRP team identified program participants that are no longer actively collecting/returning thermostats for various reasons (e.g. no longer in business, new ownership, etc.), flagging their participant profiles as “inactive”. This helps maintain an accurate list of collection points and drop-off locations that are actively participating in the program. Combining new

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participants with existing collection points as of December 31, 2021 there were active 387 collection points in British Columbia.

The breakdown of collection points per regional district is as follows:

Region	Number of Collection Points
<i>Alberni–Clayoquot Regional District</i>	2
<i>Capital Regional District</i>	43
<i>Cariboo Regional District</i>	5
<i>Columbia–Shuswap Regional District</i>	19
<i>Comox Valley Regional District</i>	12
<i>Cowichan Valley Regional District</i>	13
<i>Fraser Valley Regional District</i>	34
<i>Metro Vancouver (Greater Vancouver Regional District)</i>	124
<i>Northern Rockies Regional District</i>	1
<i>Peace River Regional District</i>	12
<i>Powell River Regional District</i>	3
<i>Regional District of Bulkley–Nechako</i>	6
<i>Regional District of Central Kootenay</i>	5
<i>Regional District of Central Okanagan</i>	16
<i>Regional District of East Kootenay</i>	7
<i>Regional District of Fraser – Fort George</i>	10
<i>Regional District of Kitimat–Stikine</i>	6
<i>Regional District of Kootenay Boundary</i>	5
<i>Regional District of Mount Waddington</i>	2
<i>Regional District of Nanaimo</i>	11
<i>Regional District of North Okanagan</i>	9
<i>Regional District of Okanagan–Similkameen</i>	10
<i>Skeena – Queen Charlotte Regional District</i>	3
<i>Squamish–Lillooet Regional District</i>	6
<i>Strathcona Regional District</i>	6
<i>Sunshine Coast Regional District</i>	7
<i>Thompson–Nicola Regional District</i>	10

As demonstrated in this table, TRP collection points are currently present in 27 of British Columbia's 29 regions. The regions in which we do not yet have participants are: Central Coast Regional District and Stikine Region. Throughout 2022, we will continue to make efforts to register participants in the remaining 2 regional districts. Nonetheless, the TRP is accessible to all residents of the province of BC through the use of our free send-back channel, if they are unable to reach a registered collection point.

5. PRODUCT ENVIRONMENTAL IMPACT REDUCTION, REUSABILITY AND RECYCLABILITY

Historically, all components recovered through the Thermostat Recovery Program have been recycled, including the plastics, metals, glass, and any electronics associated with the thermostat. While plastics recovered through the program during the 2021 calendar year were not recycled due to the Chinese National Sword Policy banning solid waste imports (see below for more details), all other components collected through the program were recycled as per the approved plan.

The breakdown of materials recovered, recycled, and not recycled from the province of British Columbia during 2021 included:

- 4,536 mercury-containing vessels (there can be anywhere between 1 to 4 mercury vessels contained in each thermostat)
- 3,050 electronic thermostats
- 11.34 kg of mercury (calculated based on 2.5 grams of Hg per vessel)
- 4.54 Kg of glass (calculated based on 1 gram of glass per vessel)
- 91.90 kg of metals
- 221.51 kg of plastics (not recycled)

The recyclability of mercury-containing thermostats cannot be improved, nor can the reusability of these obsolete products. New electronic programmable thermostats are more eco-conscious as they do not contain mercury and demonstrate higher energy efficiency than its mechanical mercury-bearing predecessor. Furthermore, there are dangers associated with the reuse of mercury-containing thermostats due to incompatibility with some new HVAC systems. For this reason, responsibly recycling older thermostats and replacing them with newer electronic models continues to be the best practice to reduce environmental impacts in program operations.

TRP will continue investigating potential ways to divert our program's plastics from landfill and bring the program's material recyclability back above 99%. Other program materials, such as glass and metals, are recovered with a high level of certainty, therefore efforts to continually reduce environmental impacts within the scope of the program have centered on improving the program's collection processes. To avoid collecting non-thermostat materials through the program, stickers reading "Thermostats only" have been created to be placed on the outside of collection containers (as described in [Section 3](#)), and participants are routinely reminded to limit collections to thermostats and related materials. In addition, beginning in 2021, the TRP team sends a monthly "Unaccepted Collections Notice" via email to those participants that returned collection pails containing one or more item(s) that the TRP does not accept in our recovery stream (including thermometers, barometers, batteries, CFL bulbs, liquid/elemental mercury, etc.).

As the Thermostat Recovery Program extends and matures, additional practices to reduce environmental impacts will be explored to ensure the program delivers positive outcomes for the environment and British Columbia's citizens.

6. POLLUTION PREVENTION HIERARCHY AND PRODUCT / COMPONENT MANAGEMENT

As per the stewardship plan for thermostats, pollution prevention efforts have continued to focus on recycling, rather than reduction/redesign or reuse. The breakdown as to why recycling is the preferred management technique out of the four "Rs" is provided below.

Reduce/redesign: The main environmental concern with thermostats is the mercury contained in many older models. While many of these thermostats remain in use, the last known date of manufacture for these models in Canada is 2008 and they are no longer sold in Canada. New thermostats have been redesigned to eliminate the mercury component and improve energy efficiency.

Reuse: The plan does not encourage the reuse of old thermostats collected through this program for the following reasons:

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- Our primary goal is to collect old mercury-containing thermostats and ensure that the mercury and other components are properly recovered from the environment and managed responsibly, not to see them in continued use;
- Old non-mercury-containing thermostats may not meet the technical/safety specifications of new HVAC systems and consume more energy than electronic programmable models.

Recycle: As per the program plan, the thermostats recovered from the Province of British Columbia are counted, documented, dismantled, and recycled. The thermostat components are recycled as follows:

- The metals collected are a mix of iron, nickel and aluminum, all holding high reuse/recycling value. Metals collected are consolidated with like materials at the collection facility and sent for down processing and resale.
- The glass vials containing the mercury are sent to Bethlehem Apparatus, where they are crushed, and the glass and mercury separated.
 - The glass is crushed, distilled and sent for recycling in fiberglass applications.
 - The mercury is sent to Bethlehem Apparatus, where it undergoes a stabilizing treatment process, converting elemental mercury to mercury sulphide, rendering it safe for disposal in specially engineered landfills. The mercury recovered from thermostats and other manufactured products are no longer processed for reuse in new product manufacturing due to the lack of a market for post-consumer mercury.
- The plastic components recovered through the program are deemed “e-waste plastics” and are comprised of mixed types. Until the end of 2017, when received by Aevitas Inc., the plastics were baled together and sent to be prepared for resale at one of the program's downstream recycling processors, either Durham Shred and Recycle or West Coast Plastics. Since the 2018 ban on imported global waste plastics in China, no substantial amount of plastics recovered through TRP were sent for recycling. This ban significantly limits the types of plastics accepted by recycling facilities, stripping e-waste plastics of economic viability. Therefore, until an appropriate alternative solution is made available, Aevitas, along with other waste processing facilities, have been disposing of collected e-plastics in landfill.

TRP will continue to participate in ongoing discussions with recycling and waste processing facilities, as well as other stewardship organizations, in hopes to derive a joint solution to divert e-plastics from landfill. Investigations into potential solutions will consider all developments within the plastics market, along with any government developments directly affecting the Chinese National Sword Policy, with current research underway into the viability of solutions in Malaysia.

The following table describes the acceptable end fates for each of the components of a thermostat:

Component	Reuse	Recycle	Energy Recovery	Landfill	Other
Plastics	X	Preferred	X	X	See comments below
Metals	X	Preferred	X	X	N/A
Mercury Vessels (glass)	X	Preferred	X	X	N/A
Mercury Vessels (mercury)	Optional	X	X	X	See comments below

Greater than 99% of all collected metal and glass components are recyclable, and were managed in accordance with the program plan and principles of pollution prevention in 2021. Although collected plastic components were not recycled, solutions to rectify this issue are continually being pursued.

The following table describes processing pathways and criteria used to assess product end fate by product component:

Nature of Processing	Component (% sold or transferred for processing)			Basis of evidence for product treatment
	Plastics	Metals	Hg Vessels (incl. glass)	
Transfer to direct processor (BC or ON)	During 2021: 0%	>99%	0%	- Due diligence process for supplier selection (incl. detailed qualification of downstream suppliers by Aevitas) - Detailed contracts with collection facility - Monthly reporting from collection facility - Annual site visit to review processes at local collection facility (not during 2021) - Official shipping manifest with product weights - Certificate of Destruction/ Recycling provided by retort facility
Transfer to direct processor elsewhere in North America	0%	0%	0%	
Transfer to direct processor outside of North America	0%	0%	0%	
Multi-step processing (BC or ON)	0%	0%	0%	
Multi-step processing elsewhere in North America	0%	0%	100%	
Multi-step processing outside of North America	0%	0%	0%	

7. PRODUCT SOLD AND COLLECTED AND RECOVERY RATE

Mercury-containing thermostats are no longer sold into the Canadian market and with no sales to report, the amount of product sold is not currently tracked. With respect to newer programmable models, thermostat sales are neither tracked on a provincial, nor federal level, therefore insufficient data is available to report on the matter. Although thermostats can have a life-span of 20-30 years, renovations can reduce this lifespan by roughly 7-10 years. This further challenges the process of determining any correlation between the amount of product sold and that recovered.

For the reasons stated above, the TRP does not use recovery rate as a metric for program performance, but rather measures the total amount of product collected against targets set in the approved program stewardship plan (see [Section 9](#)).

8. SUMMARY OF DEPOSITS, REFUNDS, REVENUES AND EXPENDITURES

As the Thermostat Recovery Program does not charge deposits, this section does not apply.

9. PLAN PERFORMANCE

Typically, the Thermostat Recovery Program measures performance and communication efforts for a given year against targets set out in the approved product stewardship plan for that calendar year. Since the most current approved stewardship plan for thermostats does not include targets for the 2021 reporting year, the TRP will not be reporting progress made towards approved targets.

9.1. Progress toward Collection Targets

The following table depicts program performance results during the period of January 1 to December 31, 2021, compared to results from the same period in 2020.

Metrics	Program Results	Percent Change
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	2020	2021	from 2020
Collection Metrics			
Adjusted Total Mercury-Containing Thermostats	2,451	3,828	+56%
Intact Units	2,295	3,470	+51%
Loose Vessels	219	501	+129%
Electronic Thermostats	2,367	3,050	+29%
Collection points	402	387	-4%
Communication Metrics	2020	2021	Percent Change from 2020
Program Website Visits	671	1,790	+167%
Printed Brochures Distributed	400	492	+23%
Printed Drop-Off Posters Distributed	44	34	-23%
Industry-Facing Ads	7	7	-

All participants are instructed to return only intact thermostats, however loose mercury vessels are occasionally returned as well. Using the industry-accepted standard of 1.4 switches per thermostat, the number of loose switches returned in 2021 is equivalent to roughly 358 thermostats. The adjusted total number of thermostats collected in 2021 is then 3,828. Continued efforts will be made in 2021 to increase program awareness and education to ensure participants understand and follow program instructions.

Dedicated to continuous improvement, in 2021, the TRP endeavored to continue achieving successful performance outcomes and providing Canadians with an easy, safe and free solution for the collection and recycling of thermostats. The TRP also set out to make up for performance gaps identified in 2020 due to the COVID-19 global pandemic. In 2021, to achieve desired outcomes, the TRP reinstated its advisory committee, performed a strategic review of the TRP's marketing and outreach initiatives, and improved the program's performance tracking tools.

Notably expanding HRAI's team to include regional support across Canadian provinces, with the addition of staff located in British Columbia, the TRP will continue exploring new ways to improve program participation and engagement in 2022. Through ongoing efforts and improvements, as well as the development of new targets based on more recent data and trends, HRAI is confident that the program will remain successful in the coming years.

9.2. Amount Collected by Regional District

The following table demonstrates the number of thermostats collected in each regional district in 2021.

Region	Mercury	Electronic Thermostats	Loose Vessels
<i>Alberni-Clayoquot Regional District</i>	11	84	14
<i>Capital Regional District</i>	970	456	8
<i>Cariboo Regional District</i>	23	34	0
<i>Columbia-Shuswap Regional District</i>	0	1	0
<i>Comox Valley Regional District</i>	108	48	0
<i>Fraser Valley Regional District</i>	3	79	29
<i>Metro Vancouver (Greater Vancouver Regional District)</i>	1745	2268	426
<i>Peace River Regional District</i>	17	10	0
<i>Regional District of Central Okanagan</i>	43	154	19
<i>Regional District of East Kootenay</i>	0	50	0

Thermostat Recovery Program 2021 Report to Director, Waste Management

<i>Regional District of Fraser-Fort George</i>	0	18	0
<i>Regional District of Kootenay Boundary</i>	40	20	0
<i>Regional District of Mount Waddington</i>	14	23	0
<i>Regional District of North Okanagan</i>	4	79	5
<i>Regional District of Okanagan-Similkameen</i>	40	26	0
<i>Sunshine Coast Regional District</i>	32	39	0
<i>Thompson-Nicola Regional District</i>	0	81	0
TOTAL	3,050	3,470	501

APPENDIX A – EARNED MEDIA

RCBC Recyclepedia



What are you recycling?

Mercury-containing Thermostats

Where are you recycling?

Grinrod x v

Find Locations

Found 2 locations near Grinrod

▼ Mercury-containing Thermostat

Electromechanical (mercury-containing) and electronic thermostats are collected through the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI)'s province-wide Thermostat Recovery Program (TRP). They are accepted free-of-charge at TRP depots provided that they are fully intact.

For areas without a permanent drop-off depot, a free mail-in option exists. For additional information on the program and to locate the nearest drop-off depot, please visit [HRAI website](http://www.hrai.ca) or call the [RCBC Recycling Hotline](tel:18002672231).



HRAI's Thermostat Recovery Program (TRP)

► See what other materials this depot also accepts

Phone: (800) 267-2231

Address: Province-wide

Website: <http://www.hrai.ca/program-participants>

Hours: Varies by location. See website.

Notes: Residents can drop off intact household thermostats to various locations throughout the province. Please log onto the website to find your closest location. A mail in option is available for more remote areas. Call for details.

City of Penticton Collection Calendar 2021 Ad

B.C. Product Stewardship Programs 2021-2022

PRODUCT	STEWARD	PROGRAM	For more details and depot locations
Paint and Household Hazardous Waste 		Recycle leftover household paint, empty paint cans, and household hazardous waste including flammable liquids, pesticides, and gasoline at several locations in the province. Please ensure products are in their original containers, with intact labels and a tight seal.	Visit www.productcare.org for a full list of accepted products and recycling locations, or call 1-877-592-2972. Or call the Recycling Council of B.C. Hotline at 1-800-667-4321.
Small Appliances and Power Tools 		Recycle over 400 types of small appliances and power tools including kitchen countertop, personal care, floor cleaning, and air treatment items. All appliances must be powered by electricity or batteries.	www.ElectroRecycle.ca or call the Recycling Council of B.C. Hotline at 1-800-667-4321.
Lights, Bulbs and Fixtures 		Recycle your light bulbs and light fixtures at hundreds of recycling locations in the province. Common accepted products include CFLs, LEDs, fluorescent tubes, and fixtures like lamps, flashlights, string lights, chandeliers, and more.	Visit www.productcare.org for a full list of accepted products and recycling locations, or call 1-877-592-2972. Or call the Recycling Council of B.C. Hotline at 1-800-667-4321.
Batteries and Cellphones 		Bring your household single-use and rechargeable batteries and cellphones for safe recycling and disposal. Includes cell phones and batteries under 5kg (alkaline, NiCd, lithium, etc); batteries from cell- and cordless phones, power tools, laptops, etc. Excludes car batteries.	www.call2recycle.ca/british-columbia or 1-888-224-9764.
Smoke or Carbon Monoxide Alarms 		Bring your smoke or carbon monoxide alarms to your nearest recycling location for safe recycling.	Visit www.productcare.org for a full list of accepted products and recycling locations, or call 1-877-592-2972. Or call the Recycling Council of B.C. Hotline at 1-800-667-4321.
Thermostats 		Bring your thermostat in for safe recycling and disposal to keep all its components, especially mercury, out of the waste stream. Includes all mercury-containing, electronic and mechanical thermostats.	www.hrai.ca/trp or 1-800-267-2231, x 273
Major Appliances 		Responsibly recycle your old, major appliances including ovens, dishwashers, washers/dryers, range hoods, and more - including appliances with refrigerants like fridges, freezers, and air conditioners. Find a free, certified collection site near you plus a full list of accepted products at www.return-it.ca/large-appliances	For more details and depot locations: www.return-it.ca/large-appliances/locations or 1-888-252-4621

Regional District of Central Okanagan – Recycle Coach

Recycle coach app

Home / ...Waste and recycling / Recycling / Recycle coach app

[Get the Recycle Coach app for iPhones/iPads](#)

[Get the Recycle Coach app for androids](#)

The free Recycle Coach App for mobile phones and tablets lets you search on how to dispose of hundreds of items, check your weekly pickup schedule and set pickup reminders all in the palm of your hand.

Regional Garbage & Recycling

 [Report a Problem](#)

My Schedule

What Goes Where

Resources

[< Back](#)



Thermostat Recovery Program

Thermostats

The Thermostat Recovery Program (TRP) only accepts electronic, mechanical or mercury-containing end-of-life thermostats used to control heating and cooling systems.

They prefer to receive these devices intact. Refer to the Drop-off Locations link below to find drop-off locations in your area. There is no fee for disposal. For more program information visit www.hrai.ca/trp.

The TRP DOES NOT accept other devices such as thermometers or barometers. Non-functional devices can be disposed of in the garbage if they do not contain mercury. For example, a thermometer containing red liquid is safe to dispose of. If a device contains a silver liquid then it should be taken to a Household Hazardous Waste Depot.

Drop off Locations

Municipal Leader Magazine Summer 2021 Ad



- Aggregates
- Asphalt Paving
- Excavation & Base Work
- Concrete
- Diamond Grinding & Maintenance
- Highway Paving
- Material Recycling
- Rural Construction
- Sewer & Water Services, CCTV Inspection and Sewer Cleaning



777 Erin Street • Winnipeg, MB • R3G 2W2
Phone: (204) 783-7091 • Fax: (204) 786-3106
Email: info@mapleleafconstruction.mb.ca
Web: www.mapleleafconstruction.mb.ca



EASY. SAFE. FREE.
THERMOSTAT RECYCLING

We recycle all elements of the thermostat;
plastic, metal, electronics and mercury (which is particularly hazardous).



Do your part and join the more than 1600 active participants in the program.

FOR MORE INFORMATION
www.hral.ca/trp
905-602-4710

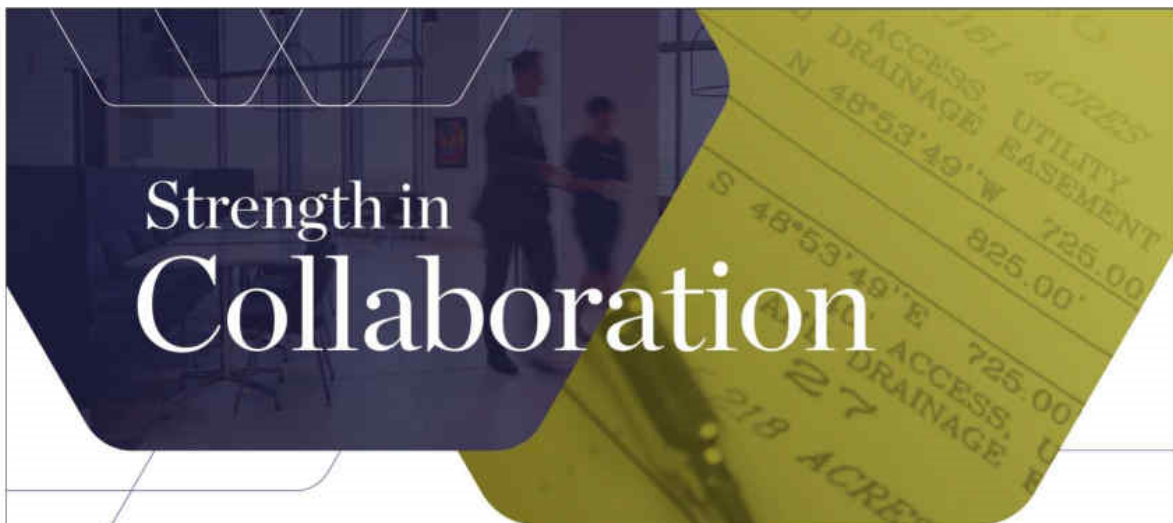
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REPROMAP

**Property Ownership Maps
GIS & GPS Mapping**
Commercial Digital
Document Center
60" wide by any length

- Large Format Photocopying
- Colour or Black & White Plotting
- Scanning (36" by any Length)
- Go Paperless with Digital Scanning & Archiving Services
- Laminating (36" by any Length)
- Drymounting Service
- Email Your Digital Files for Same Day Service
- National Topographical Maps
- Manitoba, Canada, North America & World Maps
- Lake Depth & Hydrographical Charts
- Computer Mapping & Drafting Services

**Vinyl Decaling,
Vehicle Wraps & Signage**
Ph: 204.638.3584 Fax: 204.701.3585
1551 Main Street South • Box 778 • Dauphin, MB • R0N 2S2
GPS Coordinates (NAD83 Zone 14U) E: 425623 N: 5652296 • N 51 08' 02" W 100 03' 43"
repromap@repromap.com • www.repromap.com



Strength in Collaboration

Our dedication to collaboration is what sets us apart—we don't just see the value in working together, we think it's a necessity.

TDS **THOMPSON DORFMAN SWEATMAN** Member **LexMundi** World Ready

HPAC Magazine March 2021 Ad



KEEPING THE PLANET SAFE!

WANTED
MERCURY & ELECTRONIC THERMOSTATS

Recycling with the Thermostat Recovery Program is safer for you and the environment.

We recycle all components of a thermostat: plastic, metal, electronics and mercury (which is particularly hazardous)

EASY. SAFE. FREE.

 Mercury is a potent neurotoxin. It only takes one gram to contaminate an eight hectare lake (about the size of 1.5 Olympic sized swimming pools) to the point where the fish are inedible for an entire year. Each thermostat can contain 2.5-10 grams of mercury!

Let us take care of them for you in 3 easy steps:

- ➔ 1 SIGN UP
- ➔ 2 COLLECT STATS IN THE PAIL
- ➔ 3 SEND THE PAIL BACK

(and we will send you a free replacement pail)

DO YOUR PART AND JOIN THE
1,700+
CONTRACTORS
ALREADY PARTICIPATING
ACROSS CANADA



FOR MORE INFORMATION
www.hrai.ca/trp | 905-602-4710 | Email trp@hrai.ca

Administered & delivered by:  **HRAI**
Heating, Refrigeration & Air Conditioning Institute of Canada

Supported by:  **CIPH**
Canadian Institute of Plumbing & Heating

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APPENDIX B – THIRD PARTY ASSURANCE



Independent practitioner's reasonable assurance report on Heating, Refrigeration and Air Conditioning Institute of Canada Annual Report to the Director of Extended Producer Responsibility Programs at the Ministry of the Environment, Government of British Columbia

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

We have undertaken a reasonable assurance engagement of the following information (the subject matter) of Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI), detailed in Exhibit A, presented in the 2021 Annual Report (the Report) to the Director of Extended Producer Responsibility Programs at the Ministry of Environment, Government of British Columbia (MOE) as hosted on the HRAI website¹ for the year ended December 31, 2021:

- the location of collection facilities and any changes in the number and location of collection facilities from the prior year in accordance with Section 8(2)(b) of the British Columbia Regulation 449/2004 Recycling Regulation (the Recycling Regulation);
- the description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with Section 8(2)(d) of the Recycling Regulation; and
- the total amount of the producers' product collected for the period from January 1 to December 31, 2021 in accordance with Section 8(2)(e) of the Recycling Regulation.

Management's responsibility

Management is responsible for the preparation of the subject matter in accordance with the sections 8(2)(b), 8(2)(d) and 8(2)(e) established in the British Columbia Regulation 449/2004 Recycling Regulation, and the interpretation of the criteria as set out in Exhibit A (together, the criteria). Management is also responsible for such internal control as management determines necessary to enable the preparation of the subject matter that is free from material misstatement, whether due to fraud or error.

Our responsibility

Our responsibility is to express a reasonable assurance opinion on the subject matter based on the evidence we have obtained. We conducted our reasonable assurance engagement in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3000, *Attestation Engagements Other than Audit or Reviews of Historical Financial Information*. This standard requires that we plan and perform this engagement to obtain reasonable assurance about whether the subject matter is free from material misstatement.

¹ The maintenance and integrity of the HRAI's website is the responsibility of HRAI; the work carried out by PricewaterhouseCoopers LLP does not involve consideration of these matters and, accordingly, PricewaterhouseCoopers LLP accepts no responsibility for any changes that may have occurred to the reported information or criteria since they were posted on the website.



Reasonable assurance is a high level of assurance, but is not a guarantee that an engagement conducted in accordance with this standard will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users of our report. The nature, timing and extent of procedures selected depends on our professional judgment, including an assessment of the risks of material misstatement, whether due to fraud or error, and involves obtaining evidence about the preparation of the subject matter in accordance with the applicable criteria.

We believe the evidence we obtained is sufficient and appropriate to provide a basis for our opinion.

Our independence and quality control

We have complied with the relevant rules of professional conduct/code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Control 1, *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance Engagements*, and, accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Opinion

In our opinion, Heating, Refrigeration and Air Conditioning Institute of Canada's subject matter information for the year ended December 31, 2021 is prepared, in all material respects, in accordance with the applicable criteria.

Emphasis of matter

We draw your attention to Exhibit B, which describes why certain items required by the Assurance Requirements have been excluded. Our opinion is not modified in respect of this matter.

Purpose of statement and restriction on use of our report

The subject matter has been prepared in accordance with the applicable criteria to report to the MOE Director, Extended Producer Responsibility. As a result, the subject matter may not be suitable for another purpose. Our report is intended solely for the use of HRAI. We neither assume nor accept any responsibility or liability to any third party in respect of this assurance report.

/s/PricewaterhouseCoopers LLP

Chartered Professional Accountants

Toronto, Ontario

June 24, 2022



Appendix A

Results and criteria

- 1. The location of collection facilities, and any changes in the number and location of collection facilities from the previous report as presented on page 3 of HRAI's 2021 Annual Report to the Director.**

Result:

There is one main collection facility as of December 31, 2021.

Reference: Page 3 of HRAI's 2021 Annual Report to the Director.

Method of reporting:

- Reporting period: January 1 to December 31, 2021.
- HRAI considers Aevitas Inc. to be the only Collection Facility, because "Collection Points" are more of a mechanism of recovery that increases access to the public similar to the function of a Canada Post or Courier outlet.
- The number of Collection Facilities is reported on the basis of the number of Collection Facilities who have a signed contract with HRAI to collect, process, ship, and report on collected program products during the reporting period.
- The changes in number and location of Collection Facilities are calculated by tracking the additions and removals of Collection Facilities throughout a given reporting year. This information is further compared with the equivalent data from the end of the prior year.

Definitions:

- "Program Products" are all products included in the program as listed in the revised product stewardship plan 2015-2020, Section 2.4.
- "Collection Facilities" are considered to be locations with a signed contract with HRAI for the purpose of collecting, processing, shipping, and reporting on Program Products at any point during the reporting year.
- "Collection Points" are mechanisms for collection. This term was new to the program as of the 2012 reporting year. In prior years, the collection points were considered the collection facilities. Collection Points may include the following types of businesses (also known as 'participants') and have either signed a formal document or a had a verbal discussion outlining their agreement with the Agency to take part in the program:
 - Contractors;
 - Wholesalers;
 - Local or regional government recycling centers or transfer stations; and
 - Direct send-back.



2. The description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with 8(2)(d) of the Recycling Regulation as presented on pages 3, 4, 11, 12, and 13 of HRAI's 2021 Annual Report to the Director.

The descriptions of how components (i.e. plastic, metals, glass vials containing mercury) are processed, is presented in a list on pages 11-13 of the 2021 Annual Report for Aevitas Inc.

The acceptable end fates for each of the components of a thermostat, is presented within the table on page 12 of the 2021 Annual Report.

Component	Reuse	Recycle	Energy Recovery	Landfill	Other
Plastics	X	Preferred	X	X	See page 12
Metals	X	Preferred	X	X	NA
Mercury Vessels (glass)	X	Preferred	X	X	NA
Mercury Vessels (mercury)	Optional	X	X	X	See page 12

Reference: Pages 3, 4, 11, 12, and 13 of HRAI's 2021 Annual Report to the Director.

2. The description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with 8(2)(d) of the Recycling Regulation as presented on pages 3, 4, 11, 12, and 13 of HRAI's 2021 Annual Report to the Director.

Processor due diligence:

- i. HRAI satisfies itself with the sufficiency of all downstream processors of Program Products, up to and including end of fate, based on an established due diligence process including qualification by primary processors and/or annual site visits).
- ii. The due diligence process is administered or overseen by HRAI and considers the qualifications and capabilities of the processors, in line with the goals of the Program as set out in the revised product stewardship plan 2015-2020.
- iii. If the due diligence process is administered by the processors (i.e. a primary processor assessing a secondary processor), the results of the due diligence are assessed by HRAI for sufficiency.
- iv. The rigour of the due diligence process is tailored using a risk-based approach to assess the likelihood that, and impact of, the associated Program Products/materials will enter a waste stream.
- v. Processors are responsible for designing and maintaining their own system of internal control over the Program Product reporting process, as well as assessing the system of internal control of the downstream processors as part of the selection and ongoing due diligence process.

Processor reporting:

- The Primary Processors are responsible for maintaining the records for Program Products processed, for each separately identifiable commodity of Program Products, and reporting the results, including those from downstream processors, up to and including end of fate, on a consistent and timely basis to HRAI. Reporting includes both quantitative and qualitative end of fate data for Program Products.

Method of reporting:

- Reporting period: January 1 to December 31, 2021.
- Program Products collected are reported by end of fate both by commodity and by process on the Pollution Prevention Hierarchy:
 - Reuse: N/A – No Program Products are reused per the revised product stewardship plan 2015-2020.
 - Recycle: Products are reported by each separately identifiable end of fate commodity (e.g. metals, glass, etc.) either based on the number of units for the mercury vessels; or based on weight in Kgs for the plastics, metals, mercury and glass:
 - The weight in kg of glass is calculated by multiplying the total number of mercury vessels by the industry standard of 1 gram of glass per vessel.
 - The weight in kg of mercury is calculated by multiplying the total number of mercury vessels by the industry standard of 2.5 grams of mercury per vessel.
 - Recovery: N/A - No Program Products are recovered.
- Waste: In 2021, the plastics generated from the TRP thermostats were disposed of into landfills.



2. The description of how recovered product was managed in accordance with the pollution prevention hierarchy in accordance with 8(2)(d) of the Recycling Regulation as presented on pages 3, 4, 11, 12, and 13 of HRAI's 2021 Annual Report to the Director.

Definitions:

- The Pollution Prevention Hierarchy includes the following:
 - “Reuse” includes all Program Products that are refurbished or can be reused “as-is” through either, resale, return to inventory, or given away as a donation.
 - “Recycle” includes:
 - Any Program Product that cannot be Reused.
 - Any Program Product where the sales agreement strictly prohibits the reuse of that product or requires its destruction.
 - Any Program Product that is harvested for parts.
 - Any commodities that are captured from the recycling process.
 - “Energy Recovery” relates to processing activities after the recycling stage and includes any element of the Program Product that is harvested to generate energy.
 - “Waste” includes any products not captured in the three streams above.
- “End of fate” is defined as final processed state of each commodity before entering a re-use stream or shipment to landfill/sequestration.

3. The total amount of the producer's product sold and collected and the recovery rate as presented on pages 4, 14, and 15 of HRAI's 2021 Annual Report to the Director.

Total amount of producer's product collected in 2021 is:

- Collected 3,470 mercury containing thermostats, 3,050 electronic thermostats, and 501 **loose mercury vessels**.
- **Adjusted total: 3,828 mercury containing thermostats and 3,050 electronic thermostats, for a total of 6,878 collected.**

Adjusted total mercury containing thermostats are estimated as follows:

Using the industry-accepted standard of 1.4 switches per thermostat, the number of loose switches returned in 2021 is equivalent to roughly 358 thermostats. The adjusted total number of thermostats collected in 2021 is then 3,828.

Reference: Pages 4, 14, and 15 of HRAI's 2021 Annual Report to the Director.

3. The total amount of the producer's product sold and collected and the recovery rate as presented on pages 4, 14, and 15 of HRAI's 2021 Annual Report to the Director.

Method of reporting:

- Reporting period: January 1 to December 31, 2021.
- Quantification of Product Collected is based on the number of Thermostats and Hg vessels reported by the Collection Facilities as having been received/collected and diverted during the reporting year.
- These amounts are monitored on a monthly basis through information collected that includes the number of thermostats and Hg vessels collected by geographic location.
- Although all participating collection points are encouraged to return only intact thermostats, loose vessels (which have been clipped out of thermostats) are occasionally returned as well. The equivalent number of thermostats is calculated by dividing the number of loose vessels by the industry-accepted standard of 1.4 vessels per thermostat (determined through averages provided by the industry and confirmed during a pilot study conducted by the Agency in 2006).
 - The "Adjusted total number of thermostats" collected is calculated by summing the total number of thermostats collected and the equivalent number of thermostats calculated above.
- Additional information is also collected for internal tracking purposes such as:
 - weight of plastics and metals collected;
 - brand of the thermostat collected; and
 - details of the mechanism used for collection (e.g. name and location of the Collection Point/Participant).

Definitions:

- "Program Products" are all products included in the program as listed in the revised product stewardship plan 2015-2020, Section 2.4.
- "Product Collected" is the amount of all Program Products collected from sources known to be located within the province of BC that occurred through the Collection Facilities. The amount of Product Collected is reported as the total number of thermostats, Adjusted total number of thermostats, total number of Mercury (Hg) vessels, and number of loose Hg vessels received by the Collection Facilities during the reporting year.

4. The performance for the year in relation to targets in the approved stewardship plan under Section 8(2)(b), (d) and (e) in accordance with Section 8(2)(g) of the Recycling Regulation are not presented in HRAI's 2021 Annual Report to the Director.

Result:

HRAI has not reported its performance for the year in relation to approved targets in their approved stewardship plans under 8(2)(b), (d) and (e) in accordance with 8(2)(g) of the Recycling Regulation for the year ended December 31, 2021 as HRAI is not required to report this to the Director as there are no targets set in the approved stewardship plan for these sections applicable to the reporting year.



Appendix B

Exclusions

HRAI has not reported the recovery rate for the year in accordance with 8(2)(e) of the Recycling Regulations for the year ended December 31, 2021 as the approved stewardship plan does not outline the requirement to report recovery rates. If the stewardship program does not report a recovery rate in the approved plan, assurance for producers' product sold data is not required as outlined in the Assurance Requirements.

HRAI has not reported its performance for the year in relation to targets under 8(2)(b) and (d) in accordance with 8(2)(g) of the Recycling Regulation for the year ended December 31, 2021 as HRAI is not required to report this to the Director as there are no targets set in the revised stewardship plan for these sections applicable to the reporting year.