

## Part IV: Provincial Program Summaries

### British Columbia

*Electronic Products Recycling Association (EPRA), Canadian Electrical Stewardship Association (CESA), Major Appliances Recycling Roundtable (MARR), Recycle My Cell*

#### Who is Responsible?

In line with the requirements of their approved stewardship plan, the province-wide electronics recycling program is now managed by the Electronic Products Recycling Association (EPRA) (previously ESABC). EPRA is responsible to their stewards for implementing and executing a program for handling electronic waste in a way that is consistent with EPRA standards and the requirements of the EPRA Stewardship Plan. As an industry-funded organization, the over 1600 stewards in this program include major and minor producers and retailers of electronic products in BC. Since the start of operations in 2007, EPRA's recycling program has been delivered by Encorp Pacific (Canada), a non-profit organization under contract by EPRA that operates under the name Return-It™ Electronics.

The Canadian Electrical Stewardship Association (CESA) manages ElectroRecycle, BC's small appliance and power tool recycling program. CESA is a not-for-profit product stewardship agency of manufacturers, brand owners, and retailers of small appliances, power tools, sewing machines, sports and leisure equipment. It offers companies the opportunity to become a member in an industry-governed and -operated recycling program that will meet their legal obligations under provincial regulations. CESA has contracted the BC-based Product Care Association to perform day-to-day operations of the ElectroRecycle program.

BC's recycling of major appliances is managed by the Product Care Association under contract from the Major Appliance Recycling Roundtable (MARR), a not-for-profit stewardship agency created to implement a stewardship plan for end-of-life major household appliances in the province on behalf of the major appliance "producers."

The Canadian Wireless Telecommunications Association (CWTA) manages the province's cell phone recycling program, Recycle My Cell, a national industry initiative to keep mobile devices out of local landfills. CWTA is the authority on wireless issues, developments, and trends in

Canada, and represents cellular, personal communication services (PCS), messaging, mobile radio, fixed wireless, and mobile satellite service providers as well as companies that develop and produce products for the industry.

#### Products Covered

The first phase of BC's Return-It Electronics program, the public-facing brand for the EPRA program in BC, was launched in 2007 and includes electronic items such as televisions, computers, computer monitors, keyboards, mice and other peripherals, printers, and laptops. On July 1, 2010, the second phase of the program was launched, and the list of acceptable electronics expanded to include stereos, VCRs, cameras, telephones and other personal electronics, and the batteries used in these products.

Phase III, managed by CESA and not part of the Return-It program, was launched on October 1, 2011 and was the first program of its kind in North America. Although, in the beginning, only small appliances were accepted for recycling, in July 2012, amendments made to the Recycling Regulation prompted the expansion of CESA's accepted product list to include motorized kitchen countertop appliances, microwaves, weight measurement devices, garment care appliances, desk and table-top fans, personal care appliances, and exercise machines to include electrical tools, such as hand-held power tools and bench-top and free-standing power tools, sewing machines, sports and exercise equipment (like treadmills), arts, crafts and hobby devices. A full list of materials covered by the program can be found at <http://www.cesarecycling.ca/products>.

With the launch of Phase V on July 1, 2012, the list of eligible products expanded further to include large appliances, electrical and electronic power tools, medical devices, automatic dispensers, lighting equipment, toys, leisure and sports equipment, monitoring and control instruments, IT and telecommunications equipment, and accessories for use with any e-waste product. Some but not all of these devices are covered by EPRA; others are covered by CESA and MARR.

The Major Appliances Recycling Roundtable (MARR) stewardship plan is the first and only approved stewardship plan for major appliances in BC. The MARR program accepts major household appliances powered by 120- or 240-volt input power that have been designed for

use in residential homes, including those that use natural gas or propane for heating purposes. Also included in the program are appliances used in or sold for industrial, commercial, and institutional applications that have the same fundamental design features as major household appliances.

All mobile and wireless devices that connect to a cellular or paging network, including all cell phones, smartphones, wireless personal digital assistants (PDAs), external aircards, and pagers are recovered under Recycle My Cell. Headsets, chargers, and other accessories are also accepted by this program.

### **Mandated Performance Standards**

As noted in Section 5(1)(a) of the BC Recycling Regulation, the director may adopt performance requirements when he or she considers it appropriate. Approval of 12 core performance indicators as an alternative to the recovery rate for the EPRA program was granted by the director on July 9, 2010.

According to EPRA BC's 2012–2016 stewardship plan, the program aims to maintain a 3-year rolling average of a minimum of 18,000 metric tonnes of program material collected per year beginning with the year 2011. The program has also set a target with regards to public access to collection sites and collection events. Specifically, its goal is to achieve 90% coverage on a 3-year rolling average. With respect to public awareness, the program seeks to maintain a 3-year rolling average of 65% awareness of the program beginning in 2011.

Like EPRA, CESA has a set of targets relating to collection sites, public awareness, access, and collection. The target for public access for 2011 (part 1 of the program) was 95%. CESA data shows this target was achieved.

Recycle My Cell has set no quantifiable targets. However, the CWTA has identified several performance indicators that can be used to evaluate program success, including volume of cellular devices recovered, annual survey data on consumer awareness and likeliness to participate in a mobile device recycling program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics.

### **Supporting Regulatory Framework**

The province-wide "Return-It" electronics program for EPRA BC's program began under the *Environmental Management Act* and was created in response to an

amendment to the provincial *Recycling Regulation*, which demanded that the electronics industry take responsibility for its products at the end of their life cycle. In December 2006, the Ministry of the Environment approved the British Columbia Stewardship Plan for End-of-Life Electronics, and the program became operational on August 1, 2007.

Under the BC *Recycling Regulation*, obligated "producers" (usually first importers to the province including manufacturers, distributors, and retailers) must have a product stewardship program in place and approved by the minister by July 1, 2012. To be approved, the program must include a province-wide collection system through which consumers can discard their end-of-life products free of charge. In addition, it must include a system for recycling the products that are collected.

CESA received approval for its stewardship plan for small appliances from the BC Ministry of Environment. The plan is governed by a board of directors consisting of ten individuals (six represent manufacturers or the brand owners of small appliances and four represent retailers of small appliances and electrical products). The board is also observed by the Canadian Hardware and Housewares Manufacturers Association (CHHMA), the Association of Home Appliance Manufacturers Canada (AHAM Canada), and the Retail Council of Canada (RCC).

The MARR stewardship plan received government approval on June 29, 2012. It is governed by a board of directors of major appliance manufacturers and retailers who are appointed by the Association of Home Appliance Manufacturers (AHAM) Canada and the Retail Council of Canada (RCC).

Recycle My Cell received regulatory approval on November 10, 2009 and is governed by the requirements of BC's *Recycling Regulation*.

### **Collection Systems and Rates**

The EPRA British Columbia program has grown to encompass a wide network of permanent collection sites where consumers can drop off electronics for responsible recycling without charge. Although collection models vary from the return-to-retailer to the mail-back or contractor-take-back option, most e-waste is collected through a network of Return-It depots managed by Encorp Pacific or through various programs operated by regional governments, not-for-profit organizations, or provincial governments. While most products added to the program in July 2012 have been incorporated into the existing collection model, some of them will require the implementation of new service delivery models in order to be recycled.

As of December 2011, EPRA BC's collection network had expanded to more than 120 depots providing 97% of the province's population with convenient access to collection sites. In those locations falling outside the catchment and driving-range criteria for a depot, regular e-waste collection events are held during which consumers can bring in their waste electronic equipment free of charge.

The amount of material collected under the EPRA program has increased annually by an average of 20% or more. By December 2012, the program had collected 21,963 kg of waste electronic equipment (or 4.8kg per capita). The following table shows the total tonnes collected in BC in 2012, and the rates for four more of the 12 core performance indicators.

Table 6: Performance indicators, British Columbia, 2012

| INDICATOR                |         |
|--------------------------|---------|
| Tonnes collected         | 21963   |
| Kilograms per capita     | 4.8     |
| Collection sites         | 142     |
| Population awareness (%) | 75      |
| Cost per tonne           | \$1,208 |

The CESA collection network includes 142 advertised collection facilities (as of August 15, 2013) and 14 unadvertised collection facilities. In 2012, over 2 million kg of electronics were recovered by CESA stewards.

As for Recycle My Cell, there are currently 554 drop-off locations in 83 communities across the province. In 2011, members recovered a total of 107,506 devices: 30,771 were collected through members' RMC initiatives (23,195 via drop-off locations and an estimated 7,576 using the mail-back option offered by several RMC partners) and 76,735 through various internal initiatives.

### Funding Mechanism

The Return-It program is funded through revenues generated from an environmental handing fee (EHF) paid at the point of purchase by consumers. One hundred per cent of program revenue is used for the purposes of program administration and the collection, transportation, and responsible recycling of regulated end-of-life electronics, including historic and orphaned wastes. Table 7 shows prior and current EHF's for Phase I, II, and V products run by EPRA.

Table 7: Fees, British Columbia, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$5.50  |
| Portable computers  | \$1.20  |
| Display devices ≤ 29 inches                                     | \$9.00  |
| Display devices ≥29 inches                                      | \$31.75 |
| Computer printers   | \$6.50  |
| Computer peripherals  | \$0.90  |
| Desktop computer scanners                                       | \$6.50  |
| Personal or portable audio/visual playback or recording systems | \$0.40  |
| Home audio/visual systems                                       | \$3.50  |
| Home theatre in a box (HTIB) systems                            | \$6.00  |
| Vehicle audio/visual systems                                    | \$2.75  |
| Non-cellular phones and answering machines                      | \$0.85  |

ElectroRecycle, the program covering small appliances managed by CESA, is funded by the application of a recycling fee on the sale of new products brought into BC by manufacturers and retailers. The recycling fee covers all program costs, including the collection, transportation, and recycling of electrical products. Recycling fees were determined by CESA based on industry-best practices and other factors including the following:

- Total product weight per category
- Costs of program administration
- The cost of collecting and recycling a particular product
- Product sales and forecasts

The program is designed so the cost of managing the waste within one category of product is not subsidized by the fees paid within another category. Fees will be reviewed during the first two years of program operation and will be readjusted if necessary. The EHF for these products ranges from 50 cents a unit for time and weight measurement devices to \$10.00 for a large microwave oven.

Similar to the programs of EPRA and CESA, the MARR program is funded by an administrative program fee (APF) charged on the purchase of new major household appliances in BC. All fees collected are used by MARR to cover the costs associated with implementing the MARR stewardship plan. These fees, collected from consumers, will be reported and remitted to MARR by MARR participants (manufacturers, distributors, retailers) who have registered with MARR to fulfil their regulatory

obligations. The EHF for products covered by the MARR program is \$1.25 for major cooling appliances and \$1.10 for other major appliances.

In contrast to other electronics, wireless devices are recycled without a fee to consumers. The Recycle My Cell (RMC) program is funded by various cell phone companies. The CWTA has internalized the cost of the RMC program; there are no visible fees levied on the purchase of cell phones.

## Alberta

*Alberta Recycling Management Authority (Alberta Recycling), Recycle My Cell (RMC)*

### Who is Responsible?

Initiated in October 2004 and launched in April 2005, Alberta's electronic recycling stewardship program has the distinction of being the first of its kind in Canada. Unlike the programs of the other provinces, Alberta's program is run by the Alberta Recycling Management Authority (Alberta Recycling), a not-for-profit association responsible for administering the province's tire, electronics, and paint recycling programs. Whereas other provinces have industry-funded organizations (IFOs) created through the actions of EPSC, RCC, and EPRA, Alberta's program was initiated by the provincial government.

CWTA, in conjunction with its members, is responsible for managing Recycle My Cell.

### Products Covered

Phase I electronics currently accepted for recycling include visual display devices (e.g., televisions, computer monitors), CPUs, keyboards, cables, mice, speakers, printers, laptops, notebook computers, and tablets. Details regarding program expansion to include 250 new products are expected in the near future.

Mobile devices are covered under the Recycle My Cell program.

### Mandated Performance Standards

Alberta Recycling's 2013–2016 business plan includes targets for the collection and processing of currently eligible (Phase I) electronic waste. The target for 2013–2014 is to collect and process over 16,000 tonnes of electronic waste, equating to over 4 kg per capita and a 45% capture rate.

CWTA has set a public accessibility target for the RMC program, which is to increase the number of Recycle My Cell drop-off locations by 1% per year from 2012 to 2015. It has also identified target collection rates increasing 4 to 5% each year up to 2015, when the target is a 37% collection rate.

### Supporting Regulatory Framework

This province-wide program is regulated under the Environmental Protection and Enhancement Act and the *Electronics Designation Regulation*. The law was signed in 2004 and came into force on October 1 of the same year. Fees were implemented on April 1, 2005. The regulations define electronics as a designated material for the purposes of Part 9, Division 1 of the act and the *Designated Material Recycling and Management Regulation*.

In addition to being governed by provincial regulations, Alberta Recycling and its operations are regulated by a number of legislative bylaws, including the *Electronics Recycling Bylaw*. First approved in September of 2004, the bylaw has undergone several amendments to ensure that Alberta Recycling remains accountable to the Minister of Environment and Sustainable Resource Development and the residents of Alberta.

Recycle My Cell received government approval on June 10, 2011, when the Alberta government signed a memorandum of understanding (MoU) with the CWTA.

### Collection Systems and Rates

Under Alberta Recycling, consumers can return designated end-of-life electronics free of charge to any of the province's 344 collection sites. Alternatively, electronics may be dropped off at more than 90 collection events held annually across Alberta. For materials not accepted by the program, such as radios, VCRs, and DVDs, some private recycling companies will recycle these electronics for a fee. Eco Stations, recycling depots, and other local waste-reduction events may also collect these electronics for responsible recycling.

E-waste collected at municipal collection sites is transported to one of the province's 6 registered electronics processors to be reduced to commodity state (plastics, metals, glass). From here, they are re-manufactured into new products. Registered processors are required to ensure that all waste electronics capable of storing data or personal information are physically

destroyed before being shipped to pre-approved companies (located nationally and internationally) for further processing and manufacturing into new products.

Table 8 shows the total amount of material processed (in tonnes) by the Alberta Recycling program, as well as the rates for five other performance indicators.

Table 8: Performance indicators, Alberta, 2011–2012

| INDICATOR                |         |
|--------------------------|---------|
| Tonnes collected         | 15768   |
| Kilograms per capita     | 4.4     |
| Collection sites         | 325     |
| Collection events        | 94      |
| Population awareness (%) | 81      |
| Cost per tonne           | \$1,117 |

As for the province’s cell phone recycling program, RMC has 456 drop-off locations in 78 communities. In 2011, a total of 113,579 devices were recovered through the program: 30,958 were recovered through members’ RMC initiatives (25,012 via drop-off locations and an estimated 5,946 using the mail-back option) and 82,621 through various internal initiatives. Its collection rate for 2011 was 27%.

### Funding Mechanism

Since 2005, Alberta Recycling has been funded by end users through a one-time, non-refundable environmental fee placed on the sale of new, designated electronics. The fee, which ranges from \$1.20 to \$10 (depending on the item), is charged at the point of sale and appears as a separate item on the customer’s receipt. All fees are remitted to Alberta Recycling and are used to cover the costs of collecting, transporting, and recycling end-of-life electronics; developing research into new recycling technologies; and raising awareness and support for the program. After registering with Alberta Recycling, members of the retail and manufacture supply chain are responsible for collecting and remitting the fee to Alberta Recycling in addition to filing regular remittance reports. Table 9 shows current environmental fees for different products categories under the Alberta Recycling program.

Table 9: Fees, Alberta, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers                               | \$4.40  |
| Portable computers                              | \$1.20  |
| Display devices ≤ 30 inches                     | \$4.00  |
| Display devices ≥30 inches                      | \$10.00 |
| Computer printers                               | \$4.80  |
| Desktop computer scanners                       | \$4.80  |
| Floor-standing printing devices                 | \$4.80  |
| Floor-standing copiers or multifunction devices | \$4.80  |
| Label, barcode, and card printers               | \$4.80  |

In contrast to other electronics, wireless devices are recycled without a fee to consumers through the RMC program, which is funded by the CWTA and various cell phone companies.

## Saskatchewan

*Saskatchewan Electronic Products Recycling Association (EPRA; formerly the Saskatchewan Waste Electronics Equipment Program or SWEEP), Recycle My Cell*

### Who is Responsible?

On February 1, 2007, the Saskatchewan Waste Electronic Equipment Program (SWEEP) was established as North America’s first industry-led electronic stewardship program. On April 1, 2013, Saskatchewan joined a number of other provinces (British Columbia, Manitoba, Québec, Nova Scotia, and Prince Edward Island) in transitioning to the Electronic Products Recycling Association (EPRA), a national, not-for-profit organization established to harmonize the operation and management of electronics stewardship programs across the country. Despite the transition, day-to-day management of the SWEEP program will remain unchanged.

Under the regulations, EPRA is responsible for managing industry-led and government-approved electronic products recycling programs throughout the province on behalf of industry stewards. Though EPRA is responsible for overall management, the operational aspects of the program are managed by SARCAN Recycling, a non-profit recycler run by the Saskatchewan Association of Rehabilitation Centres (SARC), under contract from EPRA.

The CWTA is responsible for managing the RMC program.

## Products Covered

SWEEP was implemented in two phases. Products included in Phase I of the program, launched on February 2007, include televisions, computer monitors, keyboards, mice, and other peripherals, printers, and laptops. In April 2010, the list of designated products was expanded to include Phase II products. Products in this category include audio-visual and consumer equipment, vehicle audio and video systems, and non-cellular phones and answering machines.

Cell phones are recovered under the RMC program.

## Mandated Performance Standards

Although there are no mandated performance standards identified in the legislation, EPRA-Saskatchewan has chosen to adopt the EPRA key performance indicators that have been adopted by other electrical and electronic stewardship programs across Canada, including Atlantic Canada Electronics Stewardship (ACES), the Electronics Stewardship Association of British Columbia (ESABC), and Ontario Electronic Stewardship (OES).

The CWTA has not set any quantifiable performance targets. However, success of the RMC program is evaluated using a suite of performance indicators including volume of cellular devices recovered, annual survey data on consumer awareness and likeliness to participate in a mobile device recycling program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics.

## Supporting Regulatory Framework

EPRA Saskatchewan is regulated under the *Saskatchewan Environmental Management and Protection Act* (2002) and the *Waste Electronic Equipment Regulations*, signed into law on February 1, 2006. Over 690 manufacturers, retailers, and other stakeholders are stewards of the program, which received government approval in accordance with Saskatchewan's product management program.

RMC was formally recognized as a stewardship program for the recycling of cell phones in Saskatchewan on November 12, 2009. Although the CWTA has no formal obligation to the Ministry of Environment, it chose to report voluntarily on the RMC program's status for the 2011 calendar year.

## Collection Systems and Rates

Since launching in Saskatchewan in 2007, EPRA Saskatchewan's collection network has expanded tremendously. As of 2012, there were 24 collection events and 72 depots in 63 communities across the province, all run by SARCAN Recycling and its community-based organizations. These depots accept all of the electronic and electrical equipment designated under the program, at no charge to the consumer. Thus far, the program has diverted more than 14,700 tonnes of waste electronics from landfill. (See Table 10 for 2012 performance.)

Table 10: Performance indicators, Saskatchewan, 2012

| INDICATOR                |         |
|--------------------------|---------|
| Tonnes collected         | 3425    |
| Kilograms per capita     | 3.24    |
| Collection sites         | 72      |
| Collection events        | 24      |
| Population awareness (%) | 87.5    |
| Cost per tonne           | \$1,760 |

Industrial, institutional, and commercial users in Regina and area can also arrange to have their electronic waste picked up by the Regina Food Bank. After collection, electronics are shipped to one of four processing centres: KIN Enterprises in Prince Albert, Saskatchewan; the Saskatchewan Abilities Council in Yorkton, Saskatchewan; Estevan Diversified Services in Estevan, Saskatchewan; and eCycle Solutions in Airdrie, Alberta.

Cell phones and other mobile devices can be returned to any of CWTA's 140 drop-off locations in 40 communities throughout the province. In 2011, a total of 40,582 devices were recovered under the RMC program: 11,953 were recovered through members' RMC initiatives (11,677 devices through RMC drop-off locations and another estimated 276 using the mail-back option) and 28,629 through various internal initiatives.

## Funding Mechanism

The program is funded entirely through revenue generated from the environmental handling fee (EHF) charged to consumers on the sale of new electronic equipment. This fee is collected by retailers and by obligated industry stewards and remitted to EPRA to finance the program and manage it in their name. The amount of the fee is determined based on the numbers of units sold in or into the province. In general, retailers pass the EHF on to the consumer at the point of sale, and it is displayed as a

separate fee on a consumer's receipt. Whether charged wholesale or retail, EHF's in Saskatchewan range from \$0.40 to \$23.25 per unit sold. The EHF's for all products covered by the program are listed in Table 11.

Table 11: Fees, Saskatchewan, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$15.00 |
| Portable computers  | \$3.00  |
| Display devices ≤ 29 inches   | \$9.25  |
| Display devices ≥29 inches  | \$23.25 |
| Computer printers   | \$8.00  |
| Computer peripherals  | \$1.10  |
| Desktop computer scanners   | N/A     |
| Personal or portable audio/<br>visual playback or recording systems | \$0.40  |
| Home audio/visual systems   | \$3.50  |
| Home theatre in a box (HTIB) systems                                | \$6.00  |
| Vehicle audio/visual systems  | \$2.75  |
| Non-cellular phones and answering machines                          | \$0.85  |

In contrast to other electronics, wireless devices are recycled without a fee to consumers through the RMC program, which is funded by various cell-phone companies in partnership with the CWTA.

## Manitoba

*End-of-Life Electrical & Electronic Equipment Recycling Program, Electronic Product Recycling Association (EPRA), Recycle My Cell*

### Who is Responsible?

When it first began, Manitoba's e-waste recycling program was run by the provincial government. Green Manitoba launched the E-Waste Roundup program on May 1, 2011. The transition to an industry-run program occurred on August 1, 2012, when E-Waste Roundup transitioned to a regulated EPR program under EPRA Manitoba. EPRA Manitoba is currently authorized to operate the end-of-life electrical and electronics equipment stewardship program in Manitoba and is responsible for delivering the program in a manner that ensures the safe collection and recycling of waste electronics.

The stewardship program for Manitoba follows a shared responsibility model whereby manufacturers, retailers, consumers, and government each plays a role. At present, more than 380 manufacturers, retailers, and other stakeholders are registered stewards of the EPRA Manitoba program plan.

Formally recognized within the province on March 25, 2009, Manitoba's cell phone recycling stewardship program, Recycle My Cell, is managed by the CWTA in conjunction with its members.

### Products Covered

Manitoba's e-waste stewardship program consists of three designated product categories. The program, launched on August 1, 2012, covers televisions, computers, computer monitors, keyboards, mice and other peripherals, laptops, printers, and audio-visual and consumer equipment. One new product, the countertop microwave, is categorized as Phase III and has been added.

Cell phones and other mobile devices are recovered separately through RMC.

### Mandated Performance Standards

EPRA Manitoba proposes to adopt the same core suite of indicators adopted by other electrical and electronic stewardship programs across Canada. This consistency will not only facilitate assessment of program performance over the years but also enable performance to be assessed relative to that of other provincial programs.

The CWTA has not set any quantifiable performance targets. However, RMC program performance is evaluated using a suite of indicators including volume of cellular devices recovered, annual survey data on consumer awareness and likeliness to participate in a mobile device recycling program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics

### Supporting Regulatory Framework

Manitoba's end-of-life electrical and electronic equipment stewardship program is regulated under the *Electrical and Electronic Equipment Stewardship Regulation (2010)* of the Waste Reduction and Prevention Act.

The original plan for RMC was granted government approval in May 2009. The revised plan outlines how the program meets the requirements of Manitoba Conservation, as described in the *Electrical and Electronic Equipment Stewardship Regulation*. The memorandum of understanding that exists between Manitoba Conservation and CWTA requires the CWTA to report on the program’s status on an annual basis by March 31.

### Collection Systems and Rates

EPRA Manitoba collaborates with various organizations, including retailers, charitable organizations, waste collection companies, and municipalities, to provide collection services for designated products. Designated electronics can be dropped off at any one of the 38 approved e-waste collection depots across the province at no charge to the consumer. However, some collectors may offer additional services, such as data destruction or home pick-up, for a fee. These fees are the responsibility of the person or organization dropping off the electronics.

Although it continues to emphasize the importance of recycling, Manitoba takes a comprehensive approach to waste management by stressing the significance of *first* reusing and then recycling. The EPRA Manitoba program seeks to manage only those electronic products that have exhausted their potential for reuse. As for electronic items that have not yet reached the end of their useful lives, residents are encouraged to donate them to family members, friends, or local charitable organizations. For example, Computers for Schools (CFS) Manitoba will accept electronics that are in working condition and meet its minimum standards. CFS refurbishes computers and related equipment donated by governments, businesses, and the general public, and then distributes this equipment across Canada to schools, libraries, and registered non-profit learning organizations.

Since becoming operational on August 1, 2012, EPRA Manitoba collected over 1,349 metric tonnes of end-of-life electronics in the first six months of operation. The province has not mandated a specific recovery or collection rate.

Cell phones and other mobile devices can be returned to any of the 131 RMC drop-off depots located in 29 communities. In 2011, RMC recovered 22,464 devices: 6,192 were recovered through members’ RMC initiatives (5,503 via drop-off locations and another estimated 689 using the mail-back option) and 16,272 through various internal initiatives.

### Funding Mechanism

The program is financed by consumers through an environmental handling fee (EHF) charged on the sale of new electronic equipment.

EHFs are remitted to EPRA Manitoba by the obligated stewards of designated products that have joined the program as a member to discharge their legal responsibilities and ensure compliance with the regulation. All revenues generated from the EHF go towards the costs of collection, handling, and recycling; communication and public education; recycler evaluations, administration, compliance, and enforcement over and above government measures; and continuous research and improvement. A full list of EHFs by product category is shown in Table 12.

Table 12: Fees, Manitoba, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$15.00 |
| Portable computers  | \$3.00  |
| Display devices ≤ 29 inches                                     | \$9.25  |
| Display devices ≥29 inches                                      | \$23.25 |
| Computer printers   | \$8.00  |
| Computer peripherals  | \$1.10  |
| Desktop computer scanners                                       | N/A     |
| Personal or portable audio/visual playback or recording systems | \$0.40  |
| Home audio/visual systems                                       | \$3.50  |
| Home theatre in a box (HTIB) systems                            | \$6.00  |
| Vehicle audio/visual systems                                    | \$2.75  |
| Non-cellular phones and answering machines                      | \$0.85  |
| Microwave ovens < 1 cubic foot                                  | \$7.50  |
| Microwave ovens > 1 cubic foot                                  | \$10.00 |



# Ontario

## *Ontario Electronics Stewardship (OES)*

### Who is Responsible?

Ontario Electronic Stewardship (OES), a not-for-profit industry organization, manages the Waste Electrical and Electronic Equipment (WEEE) program and is responsible for collecting fees from obligated stewards to finance the operation of the program. OES was established by leading retail, information technology, and consumer electronics companies to execute the program, with oversight by Waste Diversion Ontario (WDO). The WDO, a non-crown corporation created through the *Waste Diversion Act* (2002), monitors the program's performance and reports directly to the Ontario Ministry of the Environment.

### Products Covered

Ontario's Waste Electrical and Electronic Equipment program was launched on April 1, 2009, and, initially, it covered electronics including televisions, computers, computer monitors, keyboards, mice, and other peripherals, printers, and laptops. It is worth noting that Phase I also includes hard drives, making Ontario the only province that accepts them for recycling. Phase II of the program was launched in April 2010, expanding the list of acceptable electronics to include audio-visual and consumer equipment, cell-phone products, desktop scanners, non-cellular phones and answering machines, vehicle audio and video systems, home theatre in a box systems, and portable and home audio devices.

Ontario is one of only two provinces in which cellular phones are covered by the main program and not separately through Recycle My Cell.

### Mandated Performance Standards

Although there is no mandated performance standard, the program specifies targets for collection, reuse, and recycling for all eligible products. For example, it aims to collect 84,732 tonnes of Phase I and II products combined for the program year ending March 2015. This target would equate to a collection rate of 87% for desktop and portable computers, 74% for display devices, 47% for other Phase I and Phase II products, and an 80% collection rate for floor-standing copiers and printers.

The program plan also includes recycling targets. These are defined as specific percentages of [the] products available for collection.<sup>7</sup> By 2014, it aims to achieve recycling targets of 78% for desktop and portable computers, 67% for display devices, 42% for other Phase I and II products, and 72% for floor-standing copiers and printers.

The program has also set an overall reuse target of 10,188 tonnes of products available for collection by 2011. More specifically, reuse targets have been established for different product categories, for example, desktop and portable computers (37.5%), display devices (3%), other Phase I and II products (8%), and floor-standing copiers and printers (52%). It is anticipated that these targets will be met through the means of an electronics materials exchange program.

### Supporting Regulatory Framework

Ontario's Waste Electrical and Electronic Equipment program was established in response to the Ontario Minister of Environment's requests for an e-waste diversion program in 2004 and 2007. Designated waste electronics and the designated industry funding organization, OES, are regulated under the *Waste Electrical and Electronic Equipment Regulation* (2004) under the Waste Diversion Act (2002).

### Collection Systems and Rates

Consumers can return their end-of-life electrical and electronic equipment free of charge to any of the province's more than 440 permanent collection sites or to one of the 228 collection events held across Ontario. As of 2012, 85% of the province's population lived within 25 kilometres of a collection depot. These depots include retailers, businesses, non-profit organizations, and municipal facilities that have entered into agreement with OES.

In 2012 alone, Ontario residents recycled more than 75,000 tonnes of e-waste, more than was handled by any other program in Canada. This amount represented a 45% increase from the previous year. Table 13 shows the tonnes collected and rates for five other performance indicators.

<sup>7</sup> "Electronic Waste Recycling Program, Ontario," Environment Canada, last modified July 12, 2013, accessed August 16, 2013, <http://www.ec.gc.ca/gdd-mw/default.asp?lang=En&n=DB5C8F07-1>.

Table 13: Performance indicators, Ontario, 2012

| INDICATOR                |         |
|--------------------------|---------|
| Tonnes collected         | 75,702  |
| Kilograms per capita     | 5.61    |
| Collection sites         | 444     |
| Collection events        | 228     |
| Population awareness (%) | 67      |
| Cost per tonne           | \$1,105 |

### Funding Mechanism

Ontario's Waste Electrical and Electronic Equipment program is funded by fees paid to OES by industry stewards (identified as brand owners and first importers) for the proper management of their electronic and electrical equipment in Ontario. Retailers may choose to charge an environmental handling fee (EHF) at the point of sale of new products or, alternatively, to include the fee in the price of the product.

Stewards remit fees to OES based on their share of the annual cost to operate the program. Fees cover program costs to collect, transport, consolidate, and process waste electronics, as well as the cost of providing financial incentives for service providers: about 90% of the fees are used in this way. In addition, 10% of program funding is used for public education and awareness and for program management and execution.

Table 14: Fees, Ontario 2013

| CATEGORY  | FEE      |
|---|----------|
| Desktop computers   | \$3.00   |
| Portable computers  | \$1.50   |
| Display devices ≤ 29 inches                                     | \$12.25  |
| Display devices ≥29 inches                                      | \$39.50  |
| Computer printers   | \$10.35  |
| Computer peripherals  | \$0.75   |
| Personal or portable audio/visual playback or recording systems | \$0.75   |
| Home audio/visual systems                                       | \$7.10   |
| Home theatre in a box (HTIB) systems                            | \$7.10   |
| Vehicle audio/visual systems                                    | \$4.00   |
| Non-cellular phones and answering machines                      | \$1.50   |
| Floor-standing printing devices                                 | \$173.75 |
| Floor-standing copier or multifunction devices                  | \$173.75 |
| Cellular devices and pagers                                     | \$0.05   |

## Québec

*Association pour le recyclage des produits électroniques (ARPE)*

### Who is Responsible?

In May 2012, RECYC-QUÉBEC entered into agreement with EPRA requiring the organization to implement and manage, on behalf of its stewards, a program for the recovery and recycling of electronic products. Resulting from this agreement was the establishment of the Association pour le recyclage des produits électroniques (ARPE)–Québec (in English, this translates as the Electronic Products Recycling Association [EPRA]–Québec). As an industry-led, non-profit organization, ARPE-Québec is made up of the producers (manufacturers), distributors, and retailers of electronics marketed and sold in the province.

### Products Covered

Phase I of program implementation, launched on July 14, 2012, covers various electronic equipment, including televisions, computers, computer monitors, printers, scanners, computer keyboards, mice and other peripherals, cell phones, and non-cellular phones. Québec is one of only two provinces where cellular phones are covered by the main program and not separately through RMC.

On July 1, 2013, the list of eligible products expanded to include video game consoles and peripherals, floor-standing servers and routers, personal or portable audio/video systems, vehicular audio/video and navigation systems, home theatre in a box systems, and GPS devices.

### Mandated Performance Standards

The province of Québec has set minimum recovery rates for Phase I and Phase II materials, and these must be achieved on an annual basis. (The recovery rate is defined as the "quantity of products actually recovered during the year, that is, the quantity of products returned to drop-off centres or recovered through a collection service ... that were forwarded to a treatment or storage centre during the year" divided by the "quantity of products marketed during the reference year for that subcategory of products."<sup>8</sup>) The minimum recovery rates, which will become effective as of 2015, are as follows:

| PRODUCT CATEGORY   | MANDATED MINIMUM RECOVERY RATE   |
|--|--|
| Desktop computers, laptop computers, display devices, printers and scanners, video game consoles.  | 40%, to be increased by 5% per year until a 65% rate is attained (excluded are computer peripherals) |
| Cellular, satellite, wireless, and conventional telephones. Computer peripherals, portable A/V players, and routers, servers, and hard drives. | 25%, to be increased by 5% per year until a 65% rate is attained (excluded are mercury lamps)        |

In addition to these recovery targets, the same suite of key EPRA performance indicators adopted by other provincial programs will also be identified in Québec.

Worth noting is the fact that while all jurisdictions have penalties/sanctions for non-compliance by obligated producers, Quebec's is the only provincial program for end-of-life electronics that includes financial penalties to producers for missing collection targets. These penalties, outlined in Table 15 are set to become effective five years after program commencement.

### Supporting Regulatory Framework

Québec's end-of-life electronics recycling program is regulated by the *Regulation Respecting the Recovery and Reclamation of Products by Enterprises* under the *Environment Quality Act*. This regulation mandates the industry-led collection and recycling of a range of electronic products in the province. It was signed on June 15, 2011 and came into force on July 14, 2012.

### Collection Systems and Rates

Consumers can return their old electronics for recycling, free of charge, by dropping them off at one of seven eco-centres located throughout the province. Alternatively, they can bring them to any of the 450 drop-off points throughout the province. The drop-off points range from eco-centres and retailers to community centres. In general, in-store collection depots accept all types of obligated products, regardless of where they were purchased. However, some retailers may place restrictions on certain products or restrict the daily quantity of products that can be dropped off.

Retail stores (e.g., small or large, corporate or independent) operated by a program steward can become an approved ARPE-Québec drop-off point by joining the Return to Retail (R2R) Incentive Program. The R2R Program enables retailers to work with processors verified by the Recycler Qualification Office (RQO), so materials are transported and recycled in an environmentally and socially responsible manner.

In line with the waste management hierarchy, the ARPE-Québec program views source reduction (including reuse) as preferred over recycling. In light of this, it is designed to manage only those unwanted electronics that can no longer be reused. For electronics that have not yet exhausted their reuse potential, ARPE-Québec encourages consumers and IC&I generators to consider donating them to family, friends, or local charitable organizations.

### Funding Mechanism

Like other provinces, Québec funds its program by the application of an environmental handling fee (EHF) on the purchase of new designated electronic products marketed in Québec. Québec is unique in the fact that EHF's must be included in the product's price. Nonetheless, the retailer

Table 15: Penalties to be applied in 2018, Québec

| CATEGORY  | PENALTY                          |
|---|----------------------------------|
| Desktop computers   | \$10/unit                        |
| Portable computers  | \$2/unit or equivalent weight    |
| Display devices ≤ 29 inches                                     | \$15/unit                        |
| Display devices ≥ 29 inches                                     | \$15/unit                        |
| Computer printers   | \$5/unit or equivalent weight    |
| Desktops computer scanners                                      | \$5/unit or equivalent weight    |
| Personal or portable audio/visual playback or recording systems | \$1/unit or equivalent weight    |
| Home theatre in a box (HTIB) systems                            | \$4/unit or equivalent weight    |
| Non-cellular phones and answering machines                      | \$0.50/unit or equivalent weight |

may choose to indicate the amount of EHF included in the product's price for information purposes.

The full list of EHF is outlined below in Table 16. Phase I products have been subject to EHF since October 1, 2012. EHF on Phase II products will be effective as of August 1, 2013.

Table 16: Fees, Québec, 2012–2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$7.50  |
| Portable computers  | \$1.65  |
| Display devices ≤ 29 inches   | \$12.25 |
| Display devices ≥29 inches  | \$42.50 |
| Computer printers   | \$8.75  |
| Computer peripherals  | \$1.25  |
| Desktop computer scanners   | \$8.75  |
| Personal or portable audio/<br>visual playback or recording systems | \$0.45  |
| Home audio/visual systems   | \$3.75  |
| Home theatre in a box (HTIB) systems                                | \$7.25  |
| Vehicle audio/visual systems  | \$3.25  |
| Non-cellular phones and answering machines                          | \$1.15  |
| Floor-standing printing devices                                     | \$42.50 |
| Floor-standing copier or multifunction devices                      | \$42.50 |
| Label, barcode, and card printers                                   | \$8.75  |
| Cellular devices and pagers   | \$0.10  |

<sup>7</sup> Québec, Regulation Respecting the Recovery and Reclamation of Products by Enterprises, R.S.Q., c. Q-2, r. 40.1, [http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q\\_2/Q2R40\\_1\\_A.HTM](http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=3&file=/Q_2/Q2R40_1_A.HTM).

## Nova Scotia

*Electronic Products Recycling Association (EPRA; formerly Atlantic Canada Electronics Stewardship or ACES), Recycle My Cell*

### Who is Responsible?

Operating under the EPRA as of August 1, 2012, Atlantic Canada Electronics Stewardship (ACES) is responsible for the development and implementation of Nova Scotia's industry-led and government-approved electronics recycling program. ACES is a non-profit association representing more than 550 brand owners, manufacturers, retailers, and other stakeholders committed to collecting and recycling e-waste in a responsible manner. The program itself is operated by EPRA and managed by the Resource Recovery Fund Board (RRFB), a not-for-profit organization that also administers Nova Scotia's bottle, tire, and paint recycling programs.

As for cellular devices, Recycle My Cell was formally recognized as the official cellular phone stewardship program within Nova Scotia in October 2008.

### Products Covered

Nova Scotia was the first province in Atlantic Canada to develop and implement a program to deal effectively with electronic waste. Launched in two phases, the program accepts electronics in a variety of categories. Products collected during Phase I, which came into effect on February 1, 2008, include laptop and desktop computers and peripherals, printers, monitors, and televisions. Products collected during Phase II, effective as of February 1, 2009, include audio-visual and consumer equipment, fax machines, non-cellular telephones and answering machines, vehicle audio and video systems, home theatre in a box systems, portable and home audio equipment, computer scanners, telephones, and cell-phones products (excluding cell phones).

Cell phones are collected separately under the RMC program.

### Mandated Performance Standards

There are no provincial targets or mandated performance standards for the electronics recovered under either program. Nevertheless, EPRA and the CWTA have proposed several performance indicators to evaluate ongoing program success, including volume of cellular devices recovered, annual survey data on consumer

awareness and likeliness to participate in a mobile device recycling program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics.

### Supporting Regulatory Framework

The program is legislated under the *Solid Waste-Resource Management Regulations* made under Section 102 of the *Environment Act* (1994–1995). Because of these regulations, the majority of electronics have been banned from disposal in Nova Scotia landfills since 2008.

The RRFB was established under these same regulations and is contracted by EPRA to manage the program.

The RMC program, which officially launched in January 2009, is also regulated under the *Solid Waste-Resource Management Regulations*. Under Section 180(1), industry stewardship programs are required to report on their respective programs on an annual basis by June 30.

### Collection Systems and Rates

There are currently 108 independently owned and operated Enviro-Depots located in 36 communities throughout Nova Scotia. Each owner or operator is required to sign a standard agreement form with RRFB Nova Scotia to become a registered Enviro-Depot™.

Residents and businesses may bring their end-of-life electronics (excluding cell phones) directly to any of 37 Enviro-Depots free of charge. As of 2011, 96.8% of the population lived within 30 kilometres of a drop-off centre. Cell phones are collected through RMC and can be dropped off at any of the province’s 108 drop-off locations or returned through the mail using the prepaid mailing option.

The Enviro-Depots collect recyclable materials and sort them for a handling fee prior to shipping them to a central processing facility. All drop-off centres accept large volumes of unwanted electronics. However, for quantities of 25 units or more, it is necessary to book an appointment with the drop-off centre. When making an appointment, the customer must inform a drop-off centre staff member of the number of pieces being dropped off.

Nova Scotians recycled 4,734 tonnes of electronics (excluding cell phones) in 2012 (4.99kg/capita). This is a 9% increase from 2011. Table 17 shows the total collection and rates for four other performance indicators for the province of Nova Scotia.

Table 17: Performance indicators, Nova Scotia, 2012

| INDICATOR                |         |
|--------------------------|---------|
| Tonnes collected         | 4734    |
| Kilograms per capita     | 4.99    |
| Collection sites         | 37      |
| Population awareness (%) | 79      |
| Cost per tonne           | \$1,315 |

As for cell phones, a total of 29,706 devices (16 tonnes) were recovered through the RMC program in 2011; 6,708 were recovered through members’ RMC initiatives (5,678 via drop-off locations and an estimated 1,030 using the mail-back option) and 22,998 through various internal initiatives.

The EPRA Nova Scotia program is designed to manage only those electronic products that cannot be reused. Residents are encouraged to donate electronic items that have not yet reached the end of their useful life to family members, friends, or local charitable organizations.

### Funding Mechanism

This program is funded by revenues generated through EHF’s applied to the sale of designated new electronics products in Nova Scotia. A list of product categories, along with their specific fee rates, is shown in Table 18.

Table 18: Fees, Nova Scotia, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$10.50 |
| Portable computers  | \$2.10  |
| Display devices ≤ 29 inches                                     | \$11.50 |
| Display devices ≥ 29 inches                                     | \$40.00 |
| Computer printers   | \$6.50  |
| Computer peripherals  | \$0.90  |
| Desktop computer scanners                                       | \$6.50  |
| Personal or portable audio/visual playback or recording systems | \$0.40  |
| Home audio/visual systems                                       | \$3.50  |
| Home theatre in a box (HTIB) systems                            | \$6.00  |
| Vehicle audio/visual systems                                    | \$2.75  |
| Non-cellular phones and answering machines                      | \$0.85  |

In contrast to other electronics, wireless devices are recycled without a fee to consumers through the RMC program, which is funded by various cell-phone companies.

# New Brunswick

## *Recycle My Cell*

### **Who is Responsible?**

As of April 9, 2009, residents of New Brunswick can recycle their used wireless devices through the Recycle My Cell program, a national industry initiative managed by the Canadian Wireless Telecommunications Association (CWTA) in conjunction with its members (wireless manufacturers and service providers).

Despite overwhelming support from residents for an electronics recycling program, New Brunswick remains the only Maritime province that does not have one in place. The closest the province comes to a comprehensive e-waste recycling program is an initiative in Moncton, where the Westmorland-Albert Solid Waste Corporation accepts end-of-life electronics from residents of Westmorland and Albert counties and ships them to Toronto for recycling. Other places in the province provide electronics recycling services that remove some components from electronics for reuse purposes. For example, Fundy Region Solid Waste, part of the Fundy Regional Service Commission, recycles computers and ships them to Resnet Recyclage in Edmundston, a non-profit organization that disassembles some electronics to salvage working components and recyclable materials. Resnet also refurbishes electronics and donates them to low-income families and non-profit groups.

Other solid waste commissions and public service groups offer collection events for e-waste. Funding is provided via the Environmental Trust Fund

### **Products Covered**

With the exception of mobile devices, New Brunswick has not designated any electronic products as being subject to a product stewardship program.

The RMC program covers all mobile and wireless devices that connect to a cellular or paging network, including all cell phones, smartphones, wireless personal digital assistants (PDAs), external aircards, and pagers. Headsets, chargers, and other accessories are also accepted.

### **Mandated Performance Standards**

Although specific targets have yet to be set out, CWTA has identified several performance indicators used to evaluate program success, including volume of cellular devices recovered, annual survey data on consumer awareness and likelihood to participate in a mobile device recycling

program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics.

### **Supporting Regulatory Framework**

RMC is a voluntary program overseen by the province's Environment and Local Government department.

### **Collection Systems and Rates**

RMC utilizes a return-to-retail model for device recovery. New Brunswickers can return mobile devices and accessories to any of the province's 80 drop-off collection sites, regardless of where the device was purchased. Collection depots can be found in 29 communities throughout the province, and include retail stores, municipal waste depots, not-for-profit organizations, and other third-party agents not affiliated with current RMC members. Alternatively, consumers can return their devices through the mail using a prepaid mailing label.

Donated devices are sent to a recycling plant to be refurbished or disassembled for scrap. Of the 7,113 devices recovered in 2011 in New Brunswick, approximately 97% were sent for recycling while 3% were sent for refurbishment and reuse. Out of the total number, 1,906 were recovered through RMC initiatives while another 679 were recovered through the mail-back option offered by several RMC partners. An additional 5,207 devices were recovered through various internal initiatives.

Funds from the sale of refurbished phones and scrap materials are donated to national and local charities, including the World Wildlife Fund, Tree Canada, and New Brunswick food banks.

### **Funding Mechanism**

There is no fee to consumers for recycling their wireless devices through the RMC program. RMC is funded by various cell phone companies, including Bell, Dell Canada Inc., GEEP Inc., Greentec International®, LG Electronics, Lynx Mobility, Motorola Mobility, MTS, Nokia Corporation, Research in Motion (RIM), Rogers Communications, Samsung, SaskTel, Sims Recycling Solutions, Sony Mobile Communications, Tbaytel, TELUS, Vidéotron, and Virgin Mobile Canada.

Should a comprehensive electronics stewardship program become available, the province's Minister of Environment and Local Government is advocating for a hidden fee instead of the visible environmental handling fee (EHF) adopted by other provinces. A fee table has yet to be determined.

# Newfoundland and Labrador

*Electronic Products Recycling Association (EPRA)  
Newfoundland and Labrador, Recycle My Cell*

## Who is Responsible?

Launched on August 1, 2013, the province's new e-waste program takes an extended producer responsibility (EPR) approach, meaning that electronics manufacturers will be responsible for their products from the point of production through to end-of-life recycling. The program will be operated by EPRA in conjunction with manufacturers, retailers, provincial and municipal governments, and consumers. The Multi Materials Stewardship Board (MMSB), established in 1996, will continue to coordinate recycling in Newfoundland and Labrador, however.

Recycle My Cell has been responsible for managing Newfoundland and Labrador's cell phone recycling stewardship program since it received formal recognition within the province on July 28, 2009. The program is run by CWTA in partnership with cell phone service providers, handset manufacturers, and recycling companies.

## Products Covered

The EPRA program launched covering two phases. Phase I products include items such as televisions, computers, computer monitors, printers, scanners, video game consoles, and computer keyboards, mice, and other peripherals. Phase II products include audio-visual equipment, cell-phone products (excluding cell phones), desktop scanners, non-cellular telephones and answering machines, vehicle audio and video systems, home theatre in a box systems, and portable and home audio systems.

The RMC program covers mobile devices and accessories, including all mobile devices that connect to a cellular or paging network (e.g., cell phones, smartphones, wireless PDAs, external aircards, and pagers). Headsets, chargers, and other accessories are also accepted.

## Mandated Performance Standards

There are no provincial targets or mandated performance standards for the electronics recovered under either the EPRA or RMC program. However, EPRA will report on the same key performance indicators as do its sister programs in other provinces, and the CWTA has proposed several performance indicators to evaluate the program, including volume of cellular devices recovered, annual survey data on consumer awareness and likeliness to participate in a

mobile device recycling program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics.

## Supporting Regulatory Framework

The *Waste Management Regulations* (2003) under the *Environmental Protection Act* (2002) governs the disposal of e-waste in Newfoundland and Labrador. On November 2, 2012, the provincial government announced amendments to the regulations in order to introduce an industry-led electronic-waste recycling program. Under this regulation, electronic manufacturers are given 120 days to submit to the MMSB a detailed stewardship plan describing their proposed recycling program for the province.

## Collection Systems and Rates

By the end of the first year of operation, it is expected that 19 permanent collection depots will be established throughout the province. In addition, by the end of year two, there will be annual collection events implemented in 31 communities.

With regards to cell phones, consumers can return their devices to any of RMC's 74 drop-off locations in 32 communities (most of these locations are affiliated with carrier member programs). In 2011, a total of 18,622 cell phones (9 tonnes) were recovered through RMC; 5,417 were recovered through members' RMC initiatives (4,812 devices through RMC drop-off locations and an estimated 605 using the mail-back option) and 13,205 through various internal initiatives.

## Funding Mechanism

The program will be funded through revenue generated from EHF's levied on the sale of new products in the designated categories. Newfoundland and Labrador will be following the ACES model with a similar fee structure. Table 19 displays EHF's for the different product categories covered by the program.

Table 19: Fees, Newfoundland, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$10.50 |
| Portable computers  | \$2.50  |
| Display devices ≤ 29 inches   | \$12.25 |
| Display devices ≥29 inches  | \$42.50 |
| Computer printers   | \$7.75  |
| Computer peripherals  | \$1.05  |
| Desktop computer scanners   | \$7.75  |
| Personal or portable audio/<br>visual playback or recording systems | \$0.45  |
| Home audio/visual systems   | \$4.00  |
| Home theatre in a box (HTIB) systems                                | \$7.20  |
| Vehicle audio/visual systems  | \$3.25  |
| Non-cellular phones and answering machines                          | \$1.00  |

## Prince Edward Island

*Electronic Products Recycling Association (EPRA; formerly Atlantic Canada Electronics Stewardship or ACES), Recycle My Cell*

### Who is Responsible?

PEI's province-wide electronics stewardship program came into effect on July 1, 2010 and is managed by EPRA. The cellular phone stewardship program, on the other hand, is managed through the RMC program under the CWTA. RMC received formal recognition within the province on April 7, 2009.

### Products Covered

Launched in two phases on July 1, 2010, the stewardship program includes products such as televisions; computers; computer monitors, keyboards, mice, and other peripherals; printers; laptops; audio-visual equipment; desktop scanners; non-cellular telephones and answering machines; vehicle audio and video systems; home theatre in a box systems; and portable and home audio systems.

Mobile devices and accessories are covered under the RMC program.

### Mandated Performance Standards

No quantifiable targets or performance standards have been set under either program; however, EPRA will report on the same key performance indicators as do its sister programs in other provinces, and several performance indicators have been proposed by the CWTA to evaluate the program, including volume of cellular devices recovered, annual survey data on consumer awareness and likelihood to participate in a mobile-device recycling program, website traffic and call volume to toll-free numbers, representative surveys of retailer participants to determine satisfaction, and media pick-up statistics.

### Supporting Regulatory Framework

The *Materials Recycling Regulations* under the *Environmental Protection Act* governs the disposal of e-waste in PEI. These regulations require brand owners to join a government-approved product management program. Under the memorandum of understanding that exists between the CWTA and the Department of Environment, Labour and Justice, the CWTA is required to report on the program's status by March 31 of each year.

### Collection Systems and Rates

Residents of PEI may bring designated electronic items free of charge to the province's annual collection event or to any of the six Island Waste Management Corporation's approved drop-off locations across the island. In 2012, 99.6% of the province's population lived within 30 kilometres of a drop-off centre.

Cell phones are managed through RMC and can be returned to any of the 27 drop-off centres within the province. Alternatively, consumers may choose to return their cell phones using the program's mail-back option.

For the year of 2012, 649 tonnes of used electronics were recovered in PEI through the EPRA program, equivalent to 4.44 kg/capita. Table 20 shows the rates for the five performance indicators.

Table 20: Performance indicators, Prince Edward Island, 2012

| INDICATOR                |         |
|--------------------------|---------|
| Tonnes collected         | 649     |
| Kilograms per capita     | 4.44    |
| Collection sites         | 6       |
| Population awareness (%) | 69      |
| Cost per tonne           | \$1,393 |



The CWTA captured 2,423 mobile devices in 2011; 715 were recovered through members’ RMC initiatives (610 via drop-off locations and an estimated 105 using the mail-back option) and 1,708 through various internal initiatives.

### Funding Mechanism

PEI’s e-waste stewardship program is funded by an EHF that is charged at the point of sale on the purchase of new designated products. PEI industry stewards who register with EPRA must remit these fees to the organization. The fees on electronics, which are solely used to cover the actual costs of running the program, range from \$0.04 all the way up to \$40, depending on the item. Table 21 provides a complete list of EHF’s for all product categories.

Table 21: Fees, Prince Edward Island, 2013

| CATEGORY  | FEE     |
|---|---------|
| Desktop computers   | \$10.50 |
| Portable computers  | \$2.10  |
| Display devices ≤ 29 inches                                     | \$11.50 |
| Display devices ≥29 inches                                      | \$40.00 |
| Computer printers   | \$6.50  |
| Computer peripherals  | \$0.90  |
| Desktop computer scanners                                       | \$6.50  |
| Personal or portable audio/visual playback or recording systems | \$0.40  |
| Home audio/visual systems                                       | \$3.50  |
| Home theatre in a box (HTIB) systems                            | \$6.00  |
| Vehicle audio/visual systems                                    | \$2.75  |
| Non-cellular phones and answering machines                      | \$0.85  |

Mobile devices can be returned free of charge. The CWTA has internalized the cost of the RMC program and thus there are no visible fees levied on the purchase of cell phones.

## National Performance of WEEE Collection Programs

In order to provide a reasonable analysis of program performance on a province-to-province basis, we must consider a number of variables. These include, for example, the level of convenience, economies of scale, and population density, all of which can affect program performance.

Consider, for instance, Ontario’s program, which has the lowest cost per tonne. Ontario has the overall highest performance rate in Canada; it collected more material in 2012, both per capita and in total, than any other province. This success is likely attributable to the density of Ontario’s population, as well as to the fact that it has the widest network of collection sites and events, making the recycling of electronics more convenient for consumers. Ontario’s list of products covered is also longer than the lists of other programs (with the exception of Québec), which could be another reason for the program’s high performance. Despite its high collection rate, only 67% of the province’s population is aware of the program—the lowest awareness rate in Canada.

Though it represents only 3% of Canada’s population, Nova Scotia’s per capita collection rate was the second highest in the country, following Ontario. This ranking was reached despite the fact that Nova Scotia has significantly fewer collection sites and events than do most other provinces. One plausible explanation is the province’s relatively high level of population awareness.

At the other end of the scale, Prince Edward Island’s program has the lowest collection rate and a relatively high cost per tonne. This situation is understandable given its tiny population of less than 150,000 people (representing only 0.5% of Canada’s population) and the fact that it has fewer collection sites and events than any other jurisdiction.

At 87.5%, Saskatchewan had the highest level of population awareness. Nevertheless, the cost of its program, which is about \$1,760 per tonne, was the highest in the country. These figures can be explained by the province’s low collection rate (total and per capita) and the fact that it represents less than 4% of the country’s population.

As for Manitoba, Québec, New Brunswick, and Newfoundland, program performance cannot be assessed at this time, either because the program has been operational for less than one year or because it has yet to launch.

Table 22 shows the data for the 6 core performance indicators for each province with an established program.

Table 22: Performance indicators, National, 2011–2012

| INDICATOR                | BC (2012) | AB (2011–12) | SK (2012) | ON (2012) | NS (2012) | PEI (2012) |
|--------------------------|-----------|--------------|-----------|-----------|-----------|------------|
| Tonnes collected         | 21,963    | 15,768       | 3,425     | 75,702    | 4,719     | 605        |
| Kilograms per capita     | 4.8       | 4.4          | 3.24      | 5.61      | 4.97      | 4.14       |
| Collection sites         | 142       | 325          | 72        | 444       | 37        | 6          |
| Collection events        |           | 94           | 24        | 228       | 2         | 1          |
| Population awareness (%) | 75        | 81           | 87.5      | 67        | 79        | 69         |
| Cost per tonne           | \$1,208   | \$1,117      | \$1,760   | \$1,105   | \$1,269   | \$1,393    |

