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E-waste legislation grows in Canada

Get ready for Canada's WEEE-like e-waste regulations, which are being rolled out across several provinces. The aim is to cut the amount of waste in landfills - annual disposal figures in Canada just for PCs add up to 4.5 tons of cadmium and 1.1 tons of mercury and 4,750 tons of lead for PCs and TVs - and to move the burden of disposal costs to producers.

By Dr. Katalin Feszty and James Calder, Ageus Solutions Inc.

The electronics manufacturing and distribution industries will have to prepare for recently introduced Canadian e-waste regulations, similar to the European Union's Waste Electrical and Electronic Equipment (WEEE) directive. The aim is to cut the amount of waste, especially electronic and electrical waste going into the general household waste stream, and to remove the burden from end users to pay for the products at their end-of-life for treatment and disposal.

[Environment Canada](#) has stated that more than 140,000 tons of computer equipment, phones, televisions, stereos, and small home appliances accumulate in Canadian landfills each year. This amount is equivalent to the weight of about 28,000 adult African elephants, which would be equivalent to 336,000 full-size pick-up trucks stacked on top of each other.

The yearly disposal figures for personal computers alone will contain an estimated 4.5 tons of cadmium and 1.1 tons of mercury. The amount of lead contained in personal computers and televisions disposed yearly is estimated at 4,750 tons. High levels of these hazardous materials in the environment can be directly linked to adverse effects on human health and wildlife. This includes subtle neurobehavioral effects from lead, chronic kidney damage from cadmium, and sensory or neurological impairments from mercury.

On the other hand, e-waste also focuses on valuable resources such as ferrous metals, aluminum, and copper, which can be recycled and reused, however, are currently being sent to landfill with the electronic waste. Some estimates suggest computers alone contain 4,400 tons of ferrous metal, 3,050 tons of aluminum and 1,500 tons of copper.

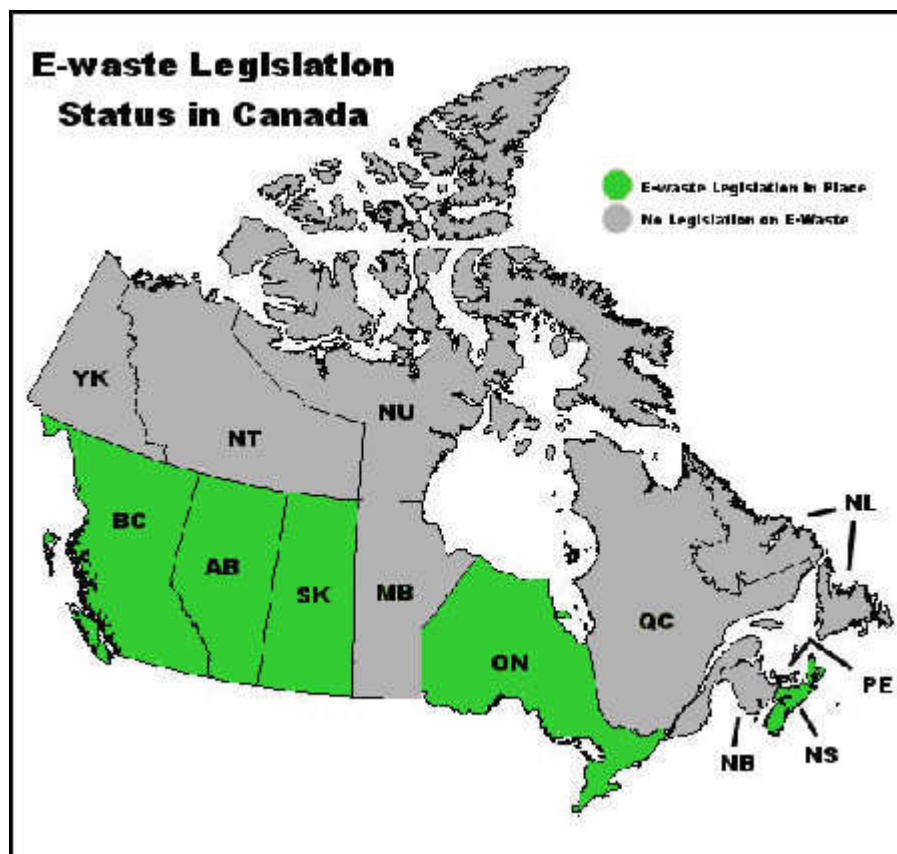
Under the philosophy of Extended Producer Responsibility it is recognized that brand owners and manufacturers are in the best position to control the longevity, content, and recyclability of the products through their design and markets.

One tool many worldwide regions are considering, including Europe and the U.S., is legislation that would require manufacturers of electronics products to be responsible for the end-of-life collection and disposal of their products. The same action has been taken at a provincial level in Canada.

The national [stewardship principles](#) for electronics products were adopted by the [Canadian Council of Ministers of the Environment](#) (CCME) in June 2004.

Here, there are twelve key principles including the following: consumer access, product mix, the designation of responsible parties, performance targets and recycling standards. These principles provide a framework to develop and set up WEEE programs in each province and the harmonization of the key elements that are necessary for balancing environmental and economic considerations. Many Canadian provinces have developed, or are in the process of developing, their own schemes and legislation.

As a start, the scope of products being considered for regulation is focused on computer monitors, laptop and notebook computers, CPUs, printers and televisions. However, this list is expected to extend down the road.



Here's a rundown of current WEEE programs in Canada.

Alberta was the first province to implement its WEEE management scheme and regulated program. Since 2004, producers are required to register with the Electronics Recycling Alberta. The Alberta Recycling Management Authority ([ARMA](#)) manages the scheme and collects fees from retailers, wholesalers, distributors and manufacturers. One hundred collection points, drop-off and round-up locations have been established in both rural and urban locations with no cost to consumers at the time of disposal. The Advance Disposal Surcharge (ADS) has been collected at the retail level since February 2005. Under the scope of the regulation laptops or electronic notebooks, printers, computer processors, computer monitors and TVs are included. Again, it is important to note that there is no charge to the end user at the disposal stage at the collection points.

In **Saskatchewan**, the regulation was published in October 2005 and took effect in February 2006. Saskatchewan Environment has approved the operation of the Saskatchewan Waste Electronic Equipment Program ([SWEEP](#)), an industry-managed collection system. Products covered under the program are CRTs, CPUs, laptops, input devices, printers, and TVs. The system will be funded through Advance Recycling Fees (ARF). The start date for the program was February 1, 2007.

In the beginning of 2005, **Nova Scotia** proposed a regulation for WEEE recovery, which took effect in January 2006. Manufacturers are required to provide for collection or enter into a stewardship agreement. Under the scope of the regulation, TVs, computers, printers, scanner, AV equipment, telephones, cell phones, and electronic games are included. The expected program start date is in the fall of 2007.

In **Ontario**, the regulation covers household appliances, IT, TC, AV, toys/sports equipment, power tools, as well as navigational, measuring, monitoring, medical or control instruments. During the initial implementation stage, computers, printers, and cell phones are the first planned targets. The [Waste Diversion Ontario's](#) WEEE Working Group has proposed to include a wide range of products over time. These products are segmented into seven "schedules":

- Schedule 1: Household appliances (air conditioners, washing machines, dryers, dishwashers, freezers, refrigerators, stoves, toasters, coffee makers, and blenders)
- Schedule 2: IT equipment (CD-ROM and computer disk drives, keyboards, computer mice, terminals, copiers, desktop computer, handheld devices, notebook computers, notepads, PDAs, printers, typewriters and computer flatbed scanners as well as CRT, LCD and plasma monitors)
- Schedule 3: Telecom equipment (fax machines, modems, pagers, cell phones, cordless phones, wire phones, and telephone answering machines)
- Schedule 4: Audio-visual equipment (amplifiers, audio players and recorders, cameras, equalizers, preamplifiers, radios, receivers, speakers, tuners, turntables, video players and recorders as well as CRT, LCD, plasma and rear projection TVs)

- Schedule 5: Toys
- Schedule 6: Electrical & electronic tools
- Schedule 7: Medical equipment

The Ontario Ministry of Environment's "minimum" list of items to be covered in the program does not include anything from the last three schedules.

Details and fees of the WEEE system are to be determined later, however, fees for historic waste will likely be fixed fees. The take-back program will be overseen by Waste Diversion Ontario and managed by Stewardship Ontario. The implementation timeframe is expected to be announced in mid-2007 with implementation in 2008.

The proposed Household Hazardous Waste Stewardship Regulation in **Manitoba** forbids the sale of regulated products if they are not covered by a stewardship program. Products covered under this legislation include TVs, computers, laptops, and scanners. The draft regulation issued an expected timeframe for announcement in mid 2007, with the actual program expected to start in 2008.

In **British Columbia**, the [Regulation in Place Program](#) is pending. The Recycling Regulation (passed in October 2004) requires producers to either develop [product stewardship plans](#) or comply with a product stewardship program for specific products. The preferred funding model leaves the financial burden on the producers, with the requirement that no costs fall on local governments/taxpayers. Visible fees at the retail level are permissible. The aim is to initially focus on items such as computers, monitors, computer accessories, printers, and televisions with an option to widen the scope of products later. The program is to be phased-in (in three phases) and is expected to be fully operational with enforcement by January 1, 2008.

In **Quebec**, a bill has been proposed to amend the [Environment Quality Act](#) and the act regarding the [Societe Quebecoise de Recuperation et de Recyclage](#). This new bill legislates for producer responsibility of WEEE. It is expected that the government will actively pursue a WEEE system in first quarter 2007 with implementation in late 2007.

The legislation in New Brunswick, the [Clean Environment Act](#), establishes a Multi-Material Stewardship Board to oversee existing waste programs and to create new ones for several waste streams including electronics. Currently there are no regulations proposed and only a pilot program is in place.

In the **Northwest Territories/Nunavut**, there are no e-waste disposal or recycling initiatives of any kind.

In **Yukon and in Newfoundland/Labrador**, there are no regulations in place and there is limited government effort to regulate this waste stream. However, a new study has just begun on the e-waste problem.

In **Prince Edward Island**, there is no legislation proposed on e-waste, however, the government is expected to work on a lead acid battery program.

In general, waste and e-waste is regulated and managed by each province separately. This short overview of the requirements and regulations in Canada shows the complexity of the compliance in each jurisdiction where the products are manufactured and/or sold.

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