



National Model for E-waste Stewardship

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The EPS Canada stewardship model

Part 1: Introduction, basic assumptions, the role of EPS Canada & the role of partner organizations

1) Basic assumptions

- Stewardship for electronics waste in Canada will be implemented by industry & will be supported by provincial and territorial governments. It will take a minimum of 5 years to implement programs in all regions of Canada.
- Because of the strong regional nature of Canada, the size of the electronics industry, the diversity & complexity of products and the costs associated with safe disposal it will not be possible for EPS Canada to impose a voluntary national solution for electronics stewardship.
- Success will be achieved by working closely with governments as they indicate readiness to move forward with regulation/legislation. A harmonized program for Canada has the best chance of success if early adopting provinces/territories embrace the EPS Canada principles. EPS Canada believes a successful early implementation will cause a domino effect with subsequent provinces/territories.
- EPS Canada is seeking flexible, non prescriptive regulations which place the onus on industry to create an acceptable stewardship program. A basic assumption is that retailers will work with manufacturers and participate in the program.
- Provincial partners should be granted the flexibility to design and develop different and innovative approaches for program delivery providing programs are in compliance with EPSC's guiding principles such as economic & environmental efficiency.
- EPS Canada must work with a provincial partner to deliver programs in each region which has
 - a. a track record with stewardship,
 - b. is able to work closely with local regulators, and
 - c. who supports harmonization. (Note it is clear that we will be able to select our partner in some regions and in other regions the government will require EPS to work with an established waste management organization).
- Stewardship regulations must allow for the maximum flexibility and take a long term approach to e-waste management thus facilitating design for the environment initiatives
- EPS Canada will work closely with both local and national stewardship organizations that are able to advance our goals and objectives.
- Environmental handling fees must not be so high as to become a deterrent to purchase.

2) The role of EPS Canada

EPS Canada will be a management company charged with representing the interests of the electronics industry in implementing a harmonized end of life stewardship program for e-waste in Canada.

Specific responsibilities will include:

- Harmonized program development and provincial/territorial liaison
- Setting, collecting, and disbursing fees
- Negotiating the addition of new products to the range of recycled products
- Negotiating the addition of new members as the need occurs
- Monitoring provincial partner performance & reporting on such, including penalties for non compliance with agreed requirements
- Determining sunset requirements for visible fees & program administration thereafter
- Providing a standard vendor qualification program for recyclers, maintaining a list of qualified recyclers, providing an ongoing audit/review program for recyclers
- Coordinating R&D projects
- Feedback to manufactures on design for the environment and design for recycling
- Maximizing public support for EPS Canada and recycling programs through public education and awareness building
- Sharing best practices and fostering innovation

3) The role of provincial/regional partners

Provincial/regional partners will draft programs based upon this plan and will manage all aspects of program implementation in their area. Partners will be experienced in stewardship programs and assist EPS Canada with provincial negotiations.

Specific responsibilities will include all aspects of local implementation:

- Local industry compliance and performance improvement/management
- Contracting with recyclers, municipalities, and depots as appropriate
- Liaison with regulators and local government
- Maximize local consumer education
- Develop and maximize reuse and local recycling options
- Manage the addition of new products or substantive changes to the stewardship program as approved by EPS Canada
- Feedback to EPS Canada on DfE and DfR issues
- Implementing best practice upgrades in a timely manner
- Ensuring costs are in line with costs in other Canadian jurisdictions

Part 2: Managing the cost of stewardship programs

Responsible management of e-waste at the end of its useful life will introduce substantial new costs. Regulations will require programs to be developed either

collectively through industry organizations or corporations will have the option of meeting the requirement through individual programs.

EPS Canada members have endorsed the following:

- Regulations must provide for the option of collective or individual solutions to e-waste management and for companies who have selected collective approaches to opt out at any time. Regulations should not be prescriptive, be long term in approach, and allow for program flexibility.
- While many members prefer a point of disposal fee, EPS Canada's working assumption for the purposes of this paper is that governments will consider this unacceptable and we have assumed an advance disposal fee will be necessary to initiate the program. EPS Canada's position on advanced disposal fees is that they must sunset, a process must be developed to define the criteria and mechanism for sunseting fees, the fees must not be used for any other purposes than environmental management, there must be a clearly defined mechanism for establishing the fee and for making any necessary changes to the amount of the fee, the fee should be visible at the retail level and not be so high that it is a deterrent to purchase.
- Fees should not be set by nor collected by the government. Fees should be set and collected by an industry organization established for this purpose and include full financial transparency.
- Fees should be uniform across the country for similar products with similar product characteristics.
- Fees should be dedicated solely to the environmental management of product at end of life which also includes reasonable system management, recycling market facilitation and public education activities.
- Fees should not cross subsidize product lines and should reflect the costs of environmental management of each product type.
- For ease of management and program launch the range of product initially covered should be limited with a commitment to expand to a wide range of electronics products as quickly as possible. Historic and orphan waste will be included with the recognition that manufacturers are not legally responsible for this waste.
- Funds would be allocated to properly define a "post visible fee" program. Funds would also be allocated to identify ways to recognize and reward manufacturer efficiency in reducing the costs of recycling their products
- Full participation in either collective or individual programs by all manufacturers and first importers is required to ensure a fair and competitive marketplace. Measures must be put into place by government to monitor and enforce compliance.

Selected Details

- 1) The initial program will see separate fees for monitors, CPU's, laptop and notebook computers, television sets, and printers and peripherals computer equipment such as mice and keyboards.
- 2) The fee will be placed on the product by manufacturers or first importers. The fee will be passed down through the sales chain.

- 3) The fee will be based upon the following considerations as defined in an EPS costing model:
 - a) Average life of the product
 - b) Anticipated sales
 - c) Anticipated return volumes and orphan products plus a small allowance for non prescribed electronics that will invariably be returned.
 - d) Collection and transportation costs
 - e) Recycling costs
 - f) Administrative management costs of EPS and the provincial partner
 - g) Consumer education and R&D costsPayback of program development costs over a time period to be defined as part of the financial model development.
- 4) The fee will be based upon a cost model for all of Canada and will include the same price for disposal of a CPU, as an example, in all regions of the country
- 5) The fees will be reimbursed to EPS Canada by manufacturers, EPS will retain their administrative fees (reasonable and monitored by the EPS Canada board of directors), and the remaining funds will be forwarded to the provincial partner organizations based upon an agreed provincial distribution formula (Note: providing funds via a formula as opposed to actual costs will cap the amount of funds provided by EPS & incent program efficiency).
- 6) The EPS program will include a provision for a fee adjustment for product recycling if members choose to recycle their own products. This is further defined in the next section.
- 7) The provincial partner organizations will deliver the program in their region.

Part 3: Managing the collection and recycling of e-waste

An effective stewardship program must ensure consumers have a convenient and cost effective collection process and resulting waste is properly managed to EPSC standards at a minimum.

EPS Canada members have endorsed the following:

- Existing waste management infrastructure provides the most convenient collection system for consumers and should provide the most cost effective solution. EPS Canada's preferred approach is for e-waste to be collected by municipal waste management sites or existing waste management depots.
- Most provincial governments have indicated they will not require municipalities to participate, as is common in Europe, but will encourage EPS Canada to strike business deals with individual municipalities/depots etc. The Federation of Canadian Municipalities (FCM) and many provincial municipal organizations have indicated to EPS Canada they support this position.
- EPS Canada believes we must have collection methods for e-waste which creates and sustains a cost competitive environment.
- EPS Canada will provide the option for member companies to independently manage the recycling of their share of waste products following the common collection process.

- EPS Canada believes that our costing model must cap the funds provided to provincial partners based upon an agreed upon formula.
- Only EPS Canada approved recyclers will be used for the recycling of e-waste. EPS Canada will provide provincial partner organizations with a list of qualified recyclers based upon the EPS Canada developed vendor certification program.

Selected details

- 1) EPS Canada, using our financial model, will determine a gross amount of funds per province to be used for the cost of collecting e-waste. The model will include assumptions on the number of pick up points and the amount of e-waste in each province. Collection points will be approved by each EPS Canada provincial partner organization and may include municipalities, waste depots, and Canada Post outlets as examples. The model may assume a per pound fee will be paid to approved collection points for all e-waste collected.
- 2) EPS Canada, using our financial model, will determine a gross amount of funds per province to be used for transportation of e-waste from collection points to recycling facilities. Provincial partners will be responsible for contracting for transportation services and for ensuring that transporters are compliant with all provincial regulations and EPSC requirements.
- 3) Recycling of waste electronics will be completed either collectively or members will have the option of sorting their share of waste and individually managing the recycling of their product. Members choosing to manage the recycling of their share will incur all costs associated with sorting, will use recyclers which meet or exceed the EPS vendor qualification standard, and EPS will allow these companies a fee adjustment.
- 4) Retail outlets who choose to collect e-waste will be paid a per pound fee but will be charged for the cost of transportation (unless they transport to recyclers/consolidation centers) Retail outlets will need to make special arrangements with the provincial partner for this service. (This point subject to further discussion)
- 5) Large commercial users wishing to dispose of e-waste may also make special arrangements with the provincial partners and will be charged full cost recovery.
- 6) EPS Canada and our partner organizations will provide a variety of consumer education materials including point of sale and internet information.

Part 4: National Cost Model

RIS International was contracted to develop a costed model which reflects the EPS Canada stewardship program. This model is outlined below. Please note the model addresses consumer waste only due to a lack of clear understanding on the issues surrounding commercial waste management. We have assumed that adding commercial waste will be cost neutral while recognizing that the addition of commercial waste may have an impact on system capacity.

RIS Suggested National Environmental Handling Fees

CPUs	\$10
Monitors	\$12 (CRT and LCD)
Laptops	\$4
Printers	\$7
Keyboards	\$1
TVs smaller than 23"	\$25 to \$30
TVs 23" to 29"	\$40-\$45

Summary of Key Model Assumptions

1. Recovery is defined as that material which was diverted from landfill or incineration, and which would otherwise have been disposed had the national program not been in place. The national model estimated three recovery scenarios: 30%; 50% and 75% recoveries by year 2010, when the national program is fully rolled out. The above recommendations are based upon a 75% recovery model.
2. The national program would handle the electronic and TV material typically discarded in the municipal waste stream. This is 38.7% of the total electronic waste stream (23.4% representing all sales to residences and 15.3% representing half of sales to small businesses) and 90% of the TV waste stream (assuming that most TV sales are to residences and old TVs end up in the municipal waste stream)
3. The national cost model was developed assuming a three-year rollout schedule starting with Alberta, BC and Saskatchewan in 2005
4. Four processing locations were assumed (Alberta, Toronto, Vancouver and Montreal)
5. Sales data were obtained from International Data Corporation (IDC) for electronic equipment and Electro-Federation Canada for TV sales.
6. Collection is assumed to occur at existing recycling, stewardship, waste and household hazardous waste drop-off depots and other suitable existing drop-off locations
7. Material is consolidated in large urban centres and transported to processing centres in 53' trailers
8. Processing occurs at a facility, which meets EPSC performance standards.
9. For each product type, the total costs of collection, transportation to consolidation centres and from consolidation centres to processors, and the costs of processing were added together.
10. This total cost was divided by the number of "eligible" units sold in that year to come up with a fee per unit required to avoid cross subsidization;
11. The fees were calculated assuming that 100% of targeted companies pay the fees; a sensitivity analysis is also provided of how the fees alter if 100% compliance is not reached.