



Electronics Product Stewardship Canada

E-waste: A Success Story

The Next Frontier of Waste Management

FCM: Sustainable Communities, Windsor-Essex, Ontario

Presented by Shelagh Kerr, President & CEO



Electronics Product Stewardship Canada Members





Extended Producer Responsibility-EPR

- Costs of managing e-waste shift from tax base to consumer base
- Responsibility for setting up programs borne by producers: manufacturers, brand owner, first importer, first seller
- Provincial regulation
- Federal co-ordination through **CCME** and **Canada Wide Principles and Action Plan**



EPR Overview of Provincial Regulations

Obligated Product	AB	BC	MB	NB	NFLD	NS	ON	PEI	QC	SK
Major Appliances	🕒	✅	🕒	🕒	🕒	🕒	🕒	🕒	🕒	🕒
Small Electrical	🕒	✅	🕒	🕒	🕒	🕒	🕒	🕒	🕒	🕒
Microwaves (countertop)	🕒	✅	✅	🕒	🕒	🕒	🕒	🕒	🕒	🕒
Phase I Electronics (displays, computers, printers)	✅	✅	✅	🕒	✅	✅	✅	✅	✅	✅
Phase II Electronics (home, vehicle & portable audio video and selected telecom)	🕒	✅	✅	🕒	✅	✅	✅	✅	✅ July 2013	✅
Phase III Electronics (photocopiers/printers, gaming consoles, servers, peripherals)	🕒	✅	🕒	🕒	🕒	🕒	* ✅	🕒	* ✅	🕒
Batteries (rechargeable and non-rechargeable)	🕒	✅	✅	🕒	🕒	🕒	✅	🕒	✅	🕒
Packaging (cardboard, plastics, Styrofoam, printed materials)	🕒	✅ 2014	✅	🕒	🕒	🕒	✅	🕒	✅	🕒

✅ Regulation currently in place (* includes some products)

🕒 Regulation not expected until 2013 or later



Materials of Concern to the Environment and Health

Lead	<ul style="list-style-type: none">• Phased out, through shift from CRT to LED TVs
Mercury	<ul style="list-style-type: none">• Phased out, LEDs do not need mercury
Cadmium	<ul style="list-style-type: none">• Phased out except rechargeable batteries
Hexavalent Chromium	<ul style="list-style-type: none">• Phased out
Acrylamide	<ul style="list-style-type: none">• Phased out
Polybrominated Biphenyls (PBB)	<ul style="list-style-type: none">• Flame retardants are being eliminated as replacements are developed
Polybrominated Diphenyl Ether (PBDE)	<ul style="list-style-type: none">• Flame retardants are being eliminated as replacements are developed



Product Design



Lighter



Miniaturization



Multi-functional



Reduction of
Materials of
Concern





EPSC is proud to release the fourth **Design for Environment Report**. This year's focus is on building sustainability into product design.





National Electronics Recycling Operator EPRA



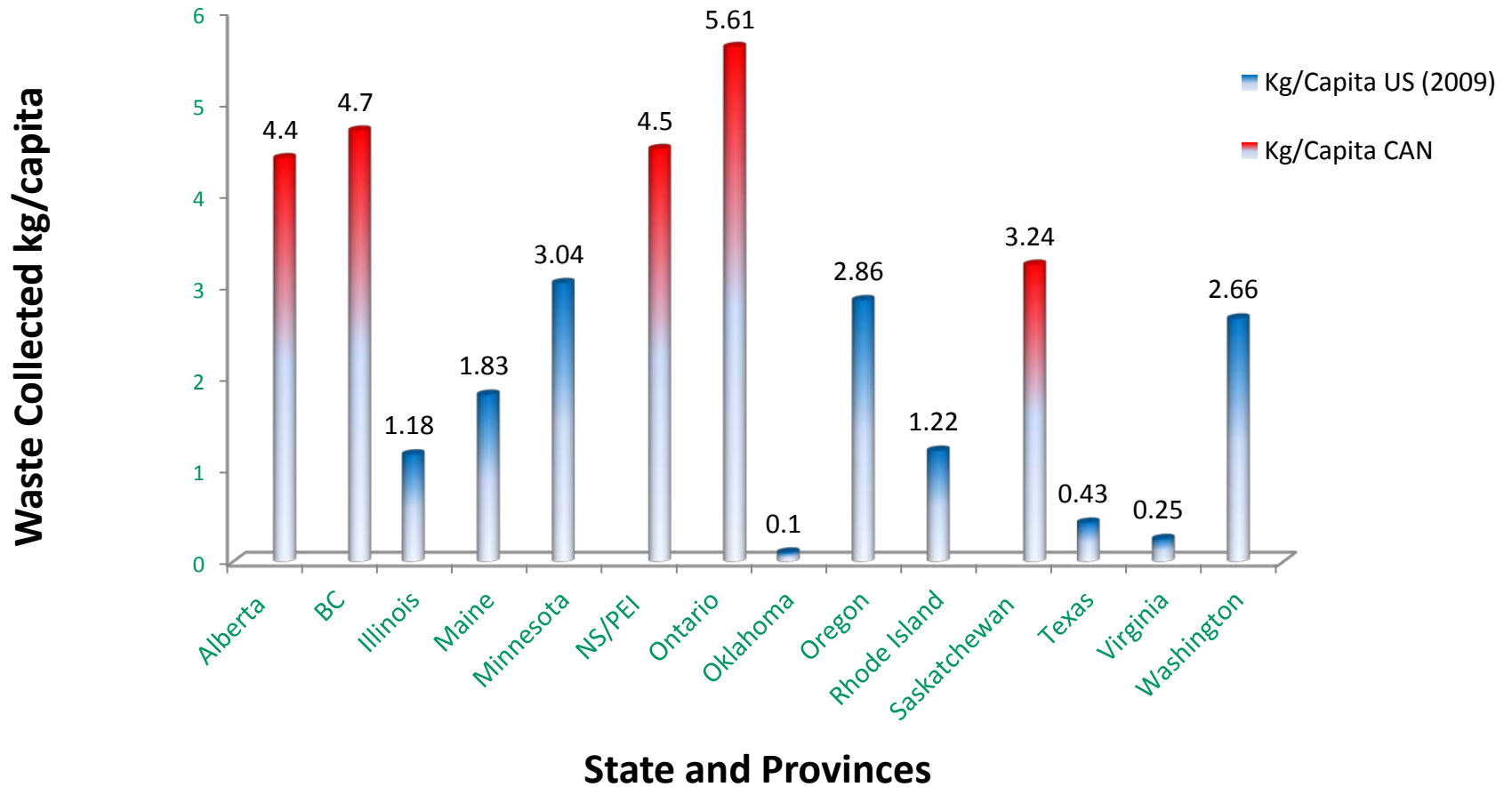


Canadian E-Waste Statistics

Provinces	Tonnes Collected (2011/12)	kg per Capita	Tonnes Since Launch	Access (%)	Awareness (%)	Cost per kg
NS & PEI	5,339	4.9	13,051	97	78	\$1.34
AB	15,768	4.4	81,554	--	81	\$1.06
BC	21,225	4.7	66,117	97	67	\$1.28
ON	73,103 (2012)	5.61	177,272	86	65	\$1.00
SK	3,425	3.24	11,864	94	65	\$1.76
Total/ Average	120,141	4.57	355,413	93.5	71.2	\$1.29

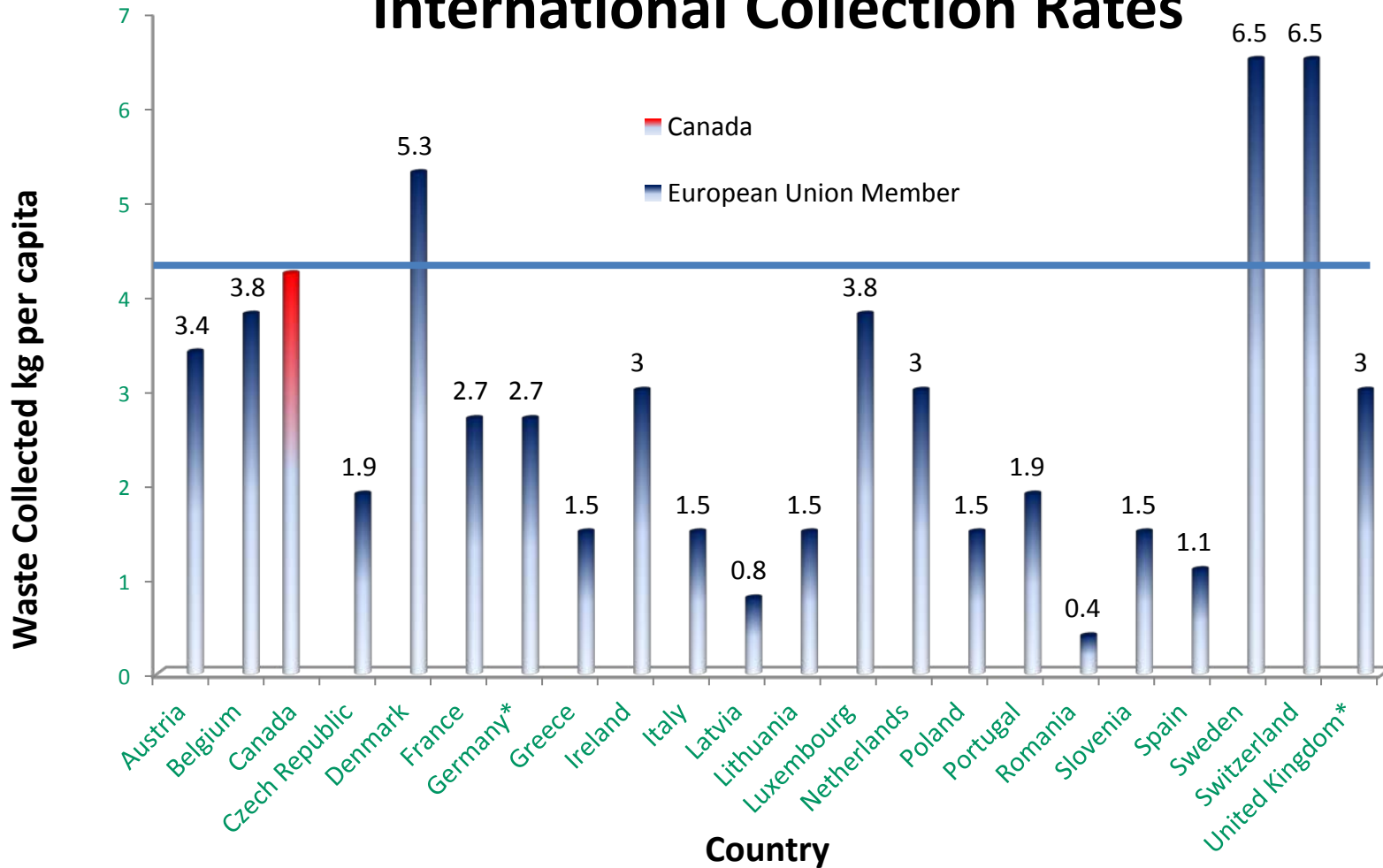


US States versus Canadian Provinces





International Collection Rates

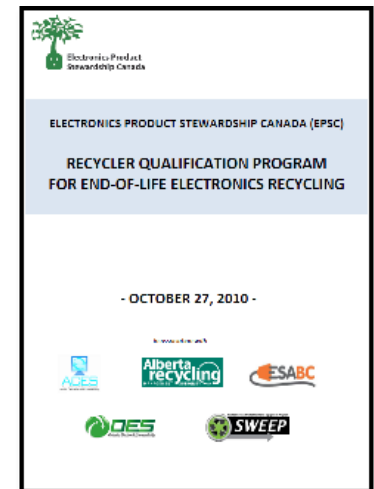


NOTE: EU figures have been adjusted to remove types of WEEE not currently collected by Canadian e-waste stewardship programs
*Germany and the United Kingdom include B2B in their WEEE collection




EPSC Recycling Standard

- ❖ All processors participating in provincial programs must meet the **Electronics Recycling Standard**
- ❖ Created by EPSC members to define the requirements for safe and responsible handling of **WEEE**
- ❖ Canada is a world leader in creating and applying a standard





Keys to Success for Stewardship Programs



High tipping fees to discourage landfilling of valuable resources

Provincial and Municipal Landfill bans linked to Obligated Product Lists to move products into responsible recycling or reuse

Provincial regulation for level playing field





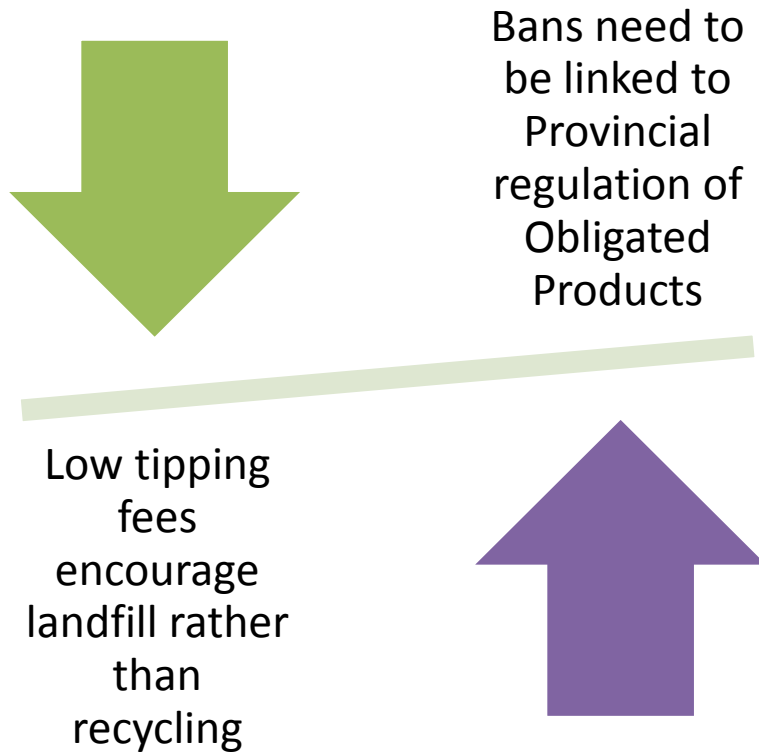
Landfill Disposal Bans

- ❖ Provincial WEEE bans currently in place in 3 provinces: **Nova Scotia, PEI, and Newfoundland**
- ❖ Municipal WEEE landfill bans in place in e.g. Vancouver, CRD- BC
- ❖ 17 US states have electronics landfill bans with 25 states regulating e-waste take back
- ❖ Municipalities enjoy direct cost savings when manufacturers manage diversion from landfill





Landfill Tipping Fees



Average landfill tipping fees across Canada range from \$20 to 100 per tonne

- ❖ **PEI:**
\$100 (electronics landfill ban)
- ❖ **Nova Scotia:**
\$85 (electronics landfill ban)
- ❖ **New Brunswick:**
\$74
- ❖ **BC:**
\$101 (Vancouver \$107)
- ❖ **Ontario:**
Toronto - \$100



Municipal Cost Savings from Electronics Recycling

(Product Stewardship Institute)

Provinces	Landfill Disposal	Recycling Cost
NS & PEI	\$1,422,988.00	\$5,538,126.00
BC	\$12,892,167.00	\$23,935,296.00
ON	\$15,036,631.00	\$65,336,476.00
SK	\$1,756,748.00	\$4,568,741.00

*Direct cost savings calculated by multiplying the population of the province by the annual per capita cost of electronics landfill versus actual recycling costs.



Urban Mining

(the recovery of raw materials from urban electronics waste)

The Olympic medals for the **Vancouver 2010 Olympic and Paralympic Winter Games** were produced using recovered gold, silver and copper.





Conclusions

- ❖ Canada is a leader in e-waste recycling
- ❖ Landfill bans and increased tipping fees create further incentive for diversion, recycling and reuse of end of life electronics
- ❖ Manufacturing groups and municipalities need to work together on education to support recycling and diversion from landfill
- ❖ Electronics recycling provides economic and social benefits to communities





Thank You

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