

Executive Summary

1. Construction and demolition materials make up some 25% of non-hazardous solid wastes across Canada. Any attempt to address the growing problem of garbage and landfill capacity will have to address these wastes. Reduction, reuse, recycling and value recovery from these wastes will also contribute to environmentally responsible development.
2. Traditionally, garbage has been the responsibility of the ‘generator’ (last user). More recently, governments have started to make ‘producers’ (manufacturers, brand owners, etc.) more responsible for collection of their products and diversion from landfill.
3. Governments have also started to focus on wastes generated by industry, businesses, and institutions – what they call the ‘ICI sector’, which includes construction, renovation and demolition, and has not in most areas been handled under the municipal collection system.
4. ‘Extended producer responsibility’ for waste management (EPR), combined with the regulatory move into the ICI sector, could soon start changing construction site costs and operations. This will come on top of other policy changes in place or being proposed in various jurisdictions across the country, such as increased tipping fees, differential tipping charges for separated recyclables, provincial tipping surcharges, targets for diversion of wastes from landfill, landfill bans for specific materials, construction or demolition project waste management plans, project deposit-refund programs, etc.
5. Under EPR, government sets required performance targets and all ‘producers’
 - become individually liable for collection and processing of an amount representing their share of designated materials, product types or waste streams.
 - must produce, have accepted and meet a waste management plan showing:
 - how much of the designated materials, product types or waste streams they produce
 - how they will handle collection, storage, transport, reuse, refurbishing, recycling and recovery
 - targets for recovery rate, recycling, reuse, etc.
 - how they will document and report progress
 - how they will educate and inform consumers
 - can raise and spend funds to meet objectives under the approved plan
 - can prepare their own plan/program individually, or join together with others in an accepted plan produced by a ‘producer responsibility organization’
6. Under EPR, ‘producers’ will add the cost of waste management to their product cost, either discretely or through specific fees, and all ‘users’, including governments, will pay these costs when purchasing products and materials.
7. In the construction industry, it is not clear who would be classified as the ‘producer’. If it means the manufacturers of designated materials or products, it is likely that they each will produce their own requirements for site separation, bin placement, collection or delivery, etc. They may also impose ‘advance disposal’ fees, similar to those in place currently for tires in

several jurisdictions. If the builder is the producer and the finished home is the designated product, builders would face much greater financial and logistical responsibilities. Under a strict application of EPR principles, new homes and renovations could be tariffed to fund demolition activities. Neither of these approaches seems particularly well suited to effective and cost-efficient waste management.

8. The Canadian Council of Ministers of the Environment¹ approved in principle a **Canada-wide Action Plan for EPR** in October 2009. It recommends EPR as the primary approach to reduce waste generated and going to disposal, and sets out product groups to be dealt with in Phase 1 (within six years of when each province or territory adopts the plan, with detailed, phased plans available within two years) and Phase 2 (within eight years, with lists of specific products within two years). Several products common on construction sites are in Phase 1 (paints, coatings, packaging, fluorescent lamps, mercury-containing switches, etc.) Construction and demolition waste materials are two of the five product groups identified as Phase 2 priorities. Provinces will face different amounts of work to reach the Phase 1 deadlines – some already have programs in place for many of the products targeted, others have only a few. None of those deal specifically with construction and demolition wastes.
9. British Columbia's Recycling Regulation has been cited by CCME as a model for omnibus EPR legislation; the province is working on a program for large appliances (a Phase 2 product), but apparently not yet on C&D wastes. Quebec has proposed omnibus EPR legislation: core requirements would apply to all future EPR programs, so far the specifics deal only with some Phase 1 products. Ontario has recommended robust and expanded EPR principles in its current five-year Waste Diversion Act review, and identified construction and demolition waste as a short term EPR priority. Nova Scotia is finalizing strategy recommendations from its Solid Waste Resource Management Strategy review.
10. A number of provinces and municipalities currently have non-EPR policies or proposals affecting construction and demolition wastes. Others are exploring new strategies. These include:
 - introducing or expanding provincial disposal fees (tipping surcharges): e.g., Quebec, Ontario, Manitoba, Nova Scotia
 - requiring waste diversion plans as a condition of building or demolition permit application: e.g., Metro Vancouver, Calgary, Regina
 - waste management deposit-refund program triggered by building or demolition permit application: e.g., Alberta (proposed hybrid program which would be managed by an industry-led organization), Metro Vancouver (drafting guidelines for local municipalities)
 - C&D wastes to be sent to licensed C&D and/or recycling facilities/specified C&D wastes banned from landfills: in place or proposed in many areas, including Metro Vancouver, Halifax, Ontario, Quebec

¹ See Appendix One for further information on the structure and role of the Canadian Council of Ministers of the Environment (CCME).

- flow control (right to restrict garbage from being transported outside of or into the waste planning region): e.g., Halifax, Quebec

1. Introduction: Why This Paper

Waste products from construction, renovation and demolition have been attracting increasing attention in Canada recently.

- Collectively, these wastes represent about 25% of the non-hazardous solid waste stream.
- Many companies are looking at their own waste streams and trying to reduce, reuse and recycle where possible.
- A number of Canadian provinces (and territories) are currently reviewing their overall waste management policies, looking the various tools available, and recommending changes which will affect construction and demolition (C&D) wastes..

More is coming.

- In the fall of 2009 the Canadian Council of Ministers of the Environment approved in principle a Canada-Wide Action Plan for Extended Producer Responsibility, which:
 - recommends ‘extended producer responsibility’ (EPR) as the primary approach to reduce waste generated and going to disposal
 - defines a producer as "the most responsible entity (which) may include but is not limited to the brand owner, manufacturer, franchisee, assembler, filler, distributor, retailer or first importer of the product"
 - recommends extending producers' responsibility so they have to pay and/or arrange to collect their products/materials after consumers have finished with them – then reuse, recycle, or otherwise divert them from the waste stream and deal with final disposal of whatever is left over
 - identifies construction wastes and demolition wastes as two of the five Phase 2 priority waste streams, to be addressed by provinces within eight years of when they adopt the Canada-wide Action Plan -- with lists of specific products targeted to be published within two years. (Phase 1 would see the growing number of products currently collected in blue bins or at special depots migrate to this new system, and add new product types. See list on page 6.)
- EPR or hybrid policies for C&D wastes are already being discussed at the provincial level in a growing number of jurisdictions.
- Some municipalities are also considering EPR or hybrid options and approaches for C&D wastes now.

This paper is intended to provide CHBA members with a brief overview of EPR, a snapshot of proposed changes, and some of the issues and opportunities they raise. As well, while most non-hazardous solid waste management falls within provincial jurisdiction, it is widely recognized that the development of effective EPR strategies requires intergovernmental coordination, as, in most cases, product and material manufacturers view Canada as a single market, and will expect a consistent set of requirements, standards and regulations in place across the country.

2. Traditional approach: ‘generator responsibility’

Traditionally, the approach to wastes has been one of ‘generator’ or ‘last user’ responsibility. In other words, everyone is responsible for what they themselves throw away.

In general, this is still true.

People are responsible for the wastes they generate at home (‘residential wastes’), including all the products they have bought and no longer use. In urban areas, the actual collection and disposal services for the non-hazardous portion of the solid waste *from households* are usually provided by a local government or regional district, waste management board, or commission representing a number of local governments.² The public body may provide collection, transportation, sorting, recycling, treatment and/or landfill (disposal) services itself, or contract with a private sector firm to provide part or all of them. Municipal garbage collection and disposal has traditionally been paid for by citizens through property taxes, or, less frequently, through specific user fees.

Businesses, industries and institutions are also responsible for the wastes they generate during their own operations. Generally, municipalities do not provide property-tax-funded garbage services for the ‘industrial-commercial-institutional (ICI) sector’³ – which includes construction, renovation and demolition firms. While smaller companies may truck their own waste materials to the local reuse depots, recyclers and/or landfill (either publicly or privately owned), most larger firms contract one or more of the private sector haulers/waste management companies to perform that function. Any costs for transportation, recycling and disposal are borne by the waste ‘generator’.

Availability and ownership of landfill sites varies across the country. In some areas, there are competing landfills, some private and some municipal. In other areas, there may be only one reasonably nearby landfill. Fees set for tipping wastes at the landfill, or outright bans, can affect how far businesses are willing to have their waste hauled.

² In many rural areas, households are still responsible for taking all their own garbage to the local landfill/recycling facilities, or hiring a contractor to do that for them. And urban households that generate non-‘normal’ garbage, such as their own construction and demolition waste materials, are not supposed to put them out for municipal collection.

³ Some municipalities do provide limited collection to private businesses such as stores and restaurants based on historic arrangements; others provide some services on a contract basis. Also in a few areas, municipalities or regional authorities have taken on responsibility for ICI waste handling as well as residential, but this is rare.

3. Evolution from garbage disposal to waste management

A full description of the changing environment in the waste management sector is beyond the scope of this paper. However, it is worth listing some of the key issues and trends to provide context for discussion of EPR.

- new awareness of the potential dangers of water and soil pollution and the need for environmental protection, starting in the 1970s and 80s
- provincial environmental legislation and regulations governing waste disposal and release of pollutants, including: new requirements for licensing of landfill site operators, both public and private; new design for ‘engineered’ landfills lined with plastic or clay to keep leachate from contaminating water supplies; new operational requirements for cover; environmental assessment prior to landfill construction and plans to decommission the sites after they were filled, requirements to capture landfill gas, and closure of many non-complying sites – many of them smaller, privately owned.
- growing citizen opposition to opening of new landfills, expansion of existing ones and incineration
- shrinking landfill capacity (can vary dramatically from one part of the country to another, reflecting rates of population and economic growth, increases or decreases in waste generation per capita or per unit, availability of willing public or private sector site developers plus capital funding plus environmentally sound sites, and speed of regulatory approval); imminent end to landfill capacity has triggered a number of municipal innovations in waste management and led to subsequent provincial actions
- focus on the 3R’s (reduce, reuse and recycle): environment ministers suggested a target in the late 1980s to divert 50% of municipal waste away from landfills to recycling; industry looked at the housing construction waste stream and opportunities for separation and recycling; new technologies and markets were explored; waste streams began to be viewed as a possible resource; varying success; problems arose with unstable markets and prices for recycled materials; disposal was often cheaper than recycling; increased/differential tipping fees or outright landfill bans for materials were introduced in some areas where recycling facilities were available
- creation of separate, less costly provincial requirements for landfilling construction and demolition wastes; C&D sites for these mostly dry inert wastes could be completely separate or in areas beside the mixed waste landfill; often tipping fees are lower to help free up space in the main landfill; where recycling facilities for specific materials exist, higher fees can be used to encourage diversion
- regionalization of waste management planning either by local municipality initiative or by provincial requirement; in some provinces, regional waste management plans are imposed by provincial regulation

- growing awareness of the connections between waste streams and climate change including: the impact of fuel used for transporting wastes to distant processing facilities; impact of different processing options; impact of methane (a very toxic GHG) produced in mixed/organic waste streams; viewing organic wastes as raw materials for composting; new technology of ‘biomethanization’ plants to capture methane, convert it to energy and at the same time qualify for GHG offset points in carbon trading systems
- increasing awareness of the costs of municipal waste services, recycling and landfill disposal; current interest in creating self-funding municipal waste ‘utilities’; increased tipping fees in general
- inclusion of 3Rs concepts in building evaluation/labelling programs and in individual companies’ corporate social responsibility plans

4. Introduction of ‘Product Stewardship’ (PS)

As mentioned above, the ICI sector, including construction, renovation and demolition has always had responsibility for the wastes it creates directly during its own operations. In the 1990s, for some common recyclable products, provinces gave producers a new responsibility for post-consumer handling of their products.

These programs were intended to shift some of the responsibility away from the garbage ‘generators’ (i.e. consumers in households and, by extension, their municipalities) onto the companies that designed and produced the products those consumers use. This follows the philosophy – found commonly in other environmental legislation and contaminated site cleanup – that producers are more likely to ‘design for environment’ if they will bear the costs of final waste handling or environmental cleanup (the ‘polluter pays’ principle).

Many provinces and territories started with deposit-refund programs for bottles. Other programs used special fees to cover collection (curbside, depots, in-store containers, etc.) and recycling of other common household products such as other beverage containers, cans, newspaper, cardboard, plastics. Product stewardship systems have also been set up, often through overseeing groups with government, environmental and industry representatives, for used oil, tires, etc. Many of these programs impose ‘advance disposal surcharges’ on consumers at the time of purchase to fund collection and recycling.

These programs generally used an approach termed ‘product stewardship’. That commonly means that producers take on some of the financial and sometimes physical management burden from the municipalities. At the least, companies defined as producers were required to pay part of the costs for the (municipal) collection of their products and delivery/sale to recycling facilities.

But they were not in control of how the program works or how much it costs; nor could they opt out to run their own program to meet the same targets.

5. 'Extended Producer Responsibility' (EPR)

As suggested in the title, EPR programs *extend* the producers' stewardship responsibility and ability to influence outcomes. They do this in a number of ways:

- all *producers and first importers* as defined by law and regulation are made *individually responsible* for the *post-consumer* collection and management of specific designated products (e.g. batteries), product categories (e.g. electronic waste) or waste streams (e.g. packaging)
- they must meet this responsibility through an approved waste management-stewardship plan
- individual producers may submit their own plan for approval, or they can act through an approved industry-run agency
- the plan must achieve specific, measurable targets for collection and diversion from landfills, backed up by reports from producers and from industry-run agencies
- products must be tracked from collection to final disposal
- activities must be reported: quantity of products produced containing designated materials, quantity collected, how they were dealt with, who handled them, what facilities, markets, etc. did they go to
- products must be processed using the least environmentally damaging option available, following a hierarchy set out in the regulations

All provinces have introduced or are planning EPR programs for some product types (see individual province reports in Section 6). In 2009, the Canadian Council of Ministers of the Environment (CCME) reported that there were more than 40 such programs operating in Canada. Product categories covered and specific requirements vary across the country. CCME report that seven jurisdictions have paint programs, five have electronics and electrical equipment programs and 10 have tire programs.

So far, no EPR programs have been introduced for construction, renovation or demolition wastes. The concept does not seem to apply easily to buildings, where 'post-consumer' can mean 100 years or more after 'production'. Public sector action to date has concentrated on measures affecting traditional 'generator responsibility' such as local/regional tipping fees, provincial disposal fees/surcharges, approval of C&D landfill sites, diversion targets, requirements in some areas for construction and/or demolition project waste management plans, site separation, sorting facilities, and specific landfill bans, plus encouragement and research support for materials recycling.

5.1 CCME's Canada-wide Action Plan on EPR

In October of 2009 the Canadian Council of Ministers of the Environment approved in principle a Canada-Wide Action Plan for Extended Producer Responsibility (CAP-EPR), which:

- seeks to harmonize definitions, principles and requirements across the country
- recommends EPR as the primary approach to reduce waste generated and going to disposal
- defines a producer as "the most responsible entity (which) may include but is not limited to the brand owner, manufacturer, franchisee, assembler, filler, distributor, retailer or first importer of the product"
- lists Phase 1 priority waste streams to be addressed by provinces and territories through EPR programs or existing product stewardship enhanced to match EPR principles, within six years of when they adopt the CAP-EPR (with more detailed, phased implementation plans within two years); several affect materials used by companies in the housing industry:
 - packaging (all packaging handled by municipalities or generated from the ICI sectors as waste or through recycling programs; includes paper, glass, metal, plastics, cardboard used for industrial/bulk packaging, transportation packaging, and retail/service packaging) – CCME has already developed a Sustainable Packaging Strategy
 - printed materials
 - fluorescent and other lamps containing mercury
 - other mercury-containing products (thermostats, thermometers, switching devices)
 - common electronics and electrical equipment (including personal computers, laptops, notebooks and hand-held devices and their peripherals, screens, bar code scanners, drives, printers, etc., various types of TVs and audio-visual equipment, telephones, cell phones, answering machines, and fax machines)
 - household hazardous and special wastes (list of 14 product types, including paints, coatings, solvents, paint strippers and their containers; batteries excluding lead-acid batteries; propane tanks and other pressurized containers; fertilizers and their containers; pesticides/insecticides; aerosol containers; portable fire extinguishers; pharmaceuticals and needles; products containing corrosives as defined in CSA HHW Z752-03); environmentally hazardous materials, flammable materials, explosives and toxic materials)
 - automotive products (used oil, anti-freeze and other fluids and their filters and containers, lamps, tires, and lead acid batteries)
- identifies construction wastes and demolition wastes as Phase 2 priority waste streams, to be addressed by provinces within eight years of when they adopt the CAP-EPR (with lists of specific products targeted to be published within two years) – the other three priorities are furniture, textiles/carpet and appliances

- it should be noted that the CCME is not a regulatory body, but serves as an intergovernmental forum for the federal/provincial/territorial Ministers of Environment. As such, the CCME's work on developing a Canada-Wide Action Plan for Extended Producer Responsibility will serve to inform provincial and territorial policies. In the case of many product and material categories, where producers address Canada as a single market, the benefit of common regulatory approaches is clear.

5.2 Key elements of the CCME CAP-EPR approach

The CAP-EPR report identifies the following overarching goals: to minimize environmental impacts, maximize environmental benefits, promote the transfer of end-of-life responsibility for the product and/or material to the producer, and encourage design for environment (DfE).

The following sections give more details on EPR principles, targets, and implementation.

5.2.1 Scope: What is the product and who is the producer?

CCME defines a 'producer' as the "most responsible entity (such as the) ... brand owner, manufacturer, franchisee, assembler, filler, distributor, retailer or first importer". This does not provide much guidance, especially in a sector as complex as construction, where thousands of different materials are manufactured into products which are later assembled into systems and equipment which finally become part of a completed building. The producer chain potentially includes hundreds of companies, at the time of first construction and again during later maintenance and renovation projects undertaken either by the homeowners themselves or through professional renovators.

Waste streams generated during new housing construction tend to include such things as 'ends' of concrete, masonry, wood, drywall, asphalt shingles, metal, paints, sealants, coatings, and other products, and packaging.

If the product is defined as a single material such as drywall, is the producer the company that produces the gypsum? The one that manufactures it into drywall? The subcontractor who installs it? The builder who finalizes design and hires the subcontractors?

In practice, contract arrangements for waste handling and recycling differ: for example, some builders require drywall subcontractors to remove all leftover product from the site when they are finished; others provide bins and charge the costs of processing them back to their subcontractors.

Would the product ever be defined more generally as 'construction waste'? Would the product ever be defined as 'a house'? In those cases, who is the producer? How would double counting be avoided, if both product producers and direct waste generators face costs and responsibilities?

Is it feasible or even desirable to give today's producers responsibility for post-consumer waste management of the some or all of the products that go into buildings that may last for generations?

5.2.2 Scope: What do producers have to do?

CCME's approach says that designated product producers should be "individually and fully responsible for the financing and operation of the EPR program". They also have the ability to raise and spend funds to meet program objectives, under an approved waste management plan.

In the more traditional product stewardship approach, the stewardship organization often carried this responsibility. Under EPR, individual producers have all those responsibilities and rights. Any producer responsibility organizations (materials management organizations) that producers may join do not relieve them of the responsibility – the organizations act on their behalf, and must do so with due regard for the need for accountability and transparency.

Specific responsibilities include:

- an approved stewardship/waste management plan (individual or through a producer responsibility organization)
- collection of products, generally including 'historic and orphan products'
- processing the products according to the approved plan
- setting and meeting targets
- collecting data and reporting according to key indicators

5.2.3 Stewardship plan

Whether it is prepared for an individual producer or a collective organization, stewardship plans are supposed to "address the full life cycle of the designated product". In general, the CAP-EPR model program suggests that a stewardship program should include:

- program objectives
- population and geographic area served
- plans for collection, storage, transport, reuse, refurbishing, recycling and recovery
- recovery rate, recycling, reuse and other performance-measurement targets
- identification of facilities such as depots, consolidation facilities and recycling and refurbishing establishments to be used in the program
- special provisions for remote areas
- information on the number of units of the designated products sold into the market
- expected number of units to be collected and processed by each of the techniques identified above, as well as associated costs
- measurement, monitoring and reporting protocols
- consumer education and awareness program
- staff training and education
- environmental design initiatives

5.2.4 Targets and incentives

Targets should be measurable and quantifiable, and reward good environmental choices. The model EPR program says they "should be designed to ensure measurable waste diversion and environmentally sound end-of-life management".

In practice, however, the measurement indicators used tend to emphasize diversion over reduction/redesign. There are few if any ways to recognize firms which already have a good waste reduction and management program in place. It can be more advantageous for firms to start out with poor practices, as they will be able to demonstrate the greatest percentage reductions. There can also be a perverse incentive to recycle or otherwise divert materials which could otherwise be reused on site, in order to keep diversion percentages high.

5.2.6 Tracking and reporting

In addition to basic measurements by weight of total product collected, diverted in various approaches and sent for disposal at the landfill, key performance indicators include:

- kilograms per unit captured (amount of material collected divided by the unit sales of the product) and/or
- kilograms per unit recovered (amount of material collected divided by the amount of product discarded)
- cost in dollars per unit captured or recovered
- per cent captured
- per cent recovered
- per cent collected and per cent diverted
- avoided GHG emissions

5.3 Issues in applying EPR to construction and demolition wastes

5.3.1 Lack of representative data

As noted previously, collectively, construction and demolition wastes account for approximately 25% of the total solid waste stream – a significant amount. However, there is little recent representative data that provides more detailed characterization of C&D wastes, specifically the portion of the total amount of ICI sector wastes that represent construction and demolition materials, and the portion of C&D wastes that are generated by residential construction (both new-build and renovation), commercial/institutional construction, engineering construction, and demolition of buildings.

In relation to the residential sector itself, there is little data on the relative contribution of new construction and renovation, or on the detailed composition, by material type, of each part of the C&D waste stream.

Further, the data that are available are often not strictly comparable and/or do not fully represent what is going on. For example, some analyses of construction waste include inert fill and rubble, while others do not. In its figures on ‘disposal’, Statistics Canada’s Waste Management Industry Survey does not count wastes managed on site. Its figures on ‘diversion’ also leave out those wastes, plus material transported directly to secondary processors such as pulp and paper mills

and materials processed for reuse or sale (scrap metals, deposit-refund) without going through any firm or local government involved in waste processing activities.

Full data are necessary to support proper development and analysis of construction and demolition waste management options.

5.3.2 Definition of ‘product’ and ‘producer’

A fundamental aspect of EPR and EPR-like waste management is the definition of what constitutes a ‘product’, and who the ‘producer’ is. From this definition flows accountability for ‘cradle-to-cradle’ stewardship, and full financial responsibility. As well, producers will have a primary role in defining the waste management procedures that will apply to their products, either directly or through the use of designated industry stewardship organizations.

For the home building industry, the implications of how these definitions are set out could be significant. If individual building materials and building products are the focus of EPR (e.g., drywall, concrete, wood products, etc), then builders would have no direct financial responsibility for the system. However, they would also have little or no control over EPR costs embedded in the materials and products they use, or the on-site waste handling obligations they would have to comply with. The product producer, or their designate, would dictate these matters and builders, as end-users, would be obligated to comply.

Conversely, if new home builders and renovators are designated as the ‘producer’ and the home or renovation as the ‘product’, builders would face much greater logistical and financial responsibility. Under a strict application of EPR principles, new homes and renovations could be tariffed to fund demolition activities (demolition representing the end-of-life component in ‘cradle-to-cradle’ management).

In practice, neither of these approaches appears particularly suited to effective and cost-efficient C&D waste management. As aggregators of materials and products, builders clearly need to play a role in developing appropriate EPR-compliance solutions. Such involvement would also provide the industry with significant input into the design and cost of such systems, a matter of interest to the industry.

5.3.3 Need for alternative approaches and coordinated response

There is general recognition within governments and among waste management experts that effective management of C&D wastes is a complex issue, and that EPR approaches may not represent the most practical option, at least for some materials. At the same time, viable alternatives to EPR would need to satisfy increasingly aggressive C&D diversion targets. As governments begin addressing C&D waste diversion, they are increasingly focused on outcomes, but appear to recognize the importance of working with the industry (both material/product producers and builders) to define how these outcomes will be achieved.

Many material and product manufacturers treat Canada as a single market, while most waste management regulation is enacted provincially, highlighting both the importance and challenge of developing coordinated EPR systems.

5.3.4 Practicality of ‘cradle-to-cradle’ EPR scope

In its submission to the CCME on EPR related to construction and demolition wastes, the CHBA argued that construction wastes and demolition wastes need to be addressed as two separate waste streams. The CCME appears to have accepted this suggestion, and this is reflected in their most recent reports.

In part this recommendation by the CHBA recognized the risks associated with a strict application of EPR principles – which could result in fees being paid by new home builders to fund demolition-related waste management costs. While this would appear an unlikely outcome, it cannot be dismissed.

The waste streams from new construction and demolition are quite different in key respects. In new construction, ‘design for the environment’ (DfE) can reduce waste generation through optimal value design approaches. Builders who make better use of materials, thus producing less waste, should be rewarded for their efforts. By definition, demolition volumes are non-elastic, and involve more complex source-separation and recycling issues. As well, demolition waste streams can involve toxic materials not present in new construction (lead-based paints, asbestos, vermiculite, ozone-depleting chemicals, etc).

5.3.5 Need for flexibility as EPR is applied to small business, and infrequently disposed of products

Most experience with EPR to date relates to consumer products with a short lifespan, produced by a relatively small number of mostly large manufacturers. Structures, product collection and reporting requirements reflect this. Large companies with a fast turnover can consider them onerous; applied to the very much smaller companies in the very different residential construction industry, they could be highly disruptive, onerous and expensive.

5.3.6 Definition of diversion – Energy from Waste

European countries with the highest waste diversion rates allow and encourage Energy from Waste (EfW) projects. Provincial support across Canada varies, and that is reflected in their EPR programs. While there is widespread agreement with the policy that recyclable materials should be recycled if possible, there are numerous hard-to-deal-with wastes for which EfW appears to be an ideal solution. EPR programs, including the definition of diversion and the hierarchy of waste management options, should be structured to encourage this option.

5.3.7 Risk that EPR could lead to government ‘tax grabs’

Waste management costs money. The central feature of EPR systems is to make the ‘producer’ financially responsible for all waste management costs related to their product, through its entire lifecycle. Strict application of EPR principles calls for these environmental costs to be ‘internalized’ in material and product prices. However, complementary measures by governments, could include disposal surcharges and tariffs, as well as new or expanded user fees. Unless all of these taxes and fees are established and managed in a highly transparent manner, there is considerable risk waste disposal will simply become another source of general revenues for government, beyond what is necessary (in the case of taxes) or justified (in the case of fees). Such costs would ultimately borne by new home buyers and those renovating their homes.

6. Current proposals in the provinces⁴

6.1 British Columbia

Main legislation:

Waste Management Act: Overall legislation for all solid, liquid and gaseous wastes. Business can only deal with waste under a permit, approval, order, regulation, or approved waste management plan. Regional districts have authority to manage municipal solid waste and recyclables and set fees; municipalities (or groups of municipalities) are required to submit a waste management plan including recyclables. BC introduced the first EPR-type program in Canada in 1994, for paint. The province’s Recycling Regulation (449/2004), which addresses EPR-type waste planning and management for beverage containers, ‘post-consumer residuals’ (pesticides, pharmaceuticals, used oil, etc.), tires and electronics, was cited by CCME as a model example for omnibus/framework regulations.

⁴ Sources for data in this section:

2006 Waste Statistics: Statistics Canada, Waste Management Industry Survey, Business and Government Sectors, 2006

Current Product Stewardship-EPR Programs: Canada-wide Action Plan for Extended Producer Responsibility, CCME, 2009; 2009 Conference on Canadian Stewardship chart at <http://www.canadianstewardship.com/2009home.html>; communications with provincial EPR representatives.

Tipping fees: Speech by Jim Ferguson, Green Manitoba, on Manitoba’s Waste Reduction and Recycling Support Levy, Manitoba Association of Regional Recyclers, November 3, 2009

2006 Waste Indicators

Kilograms of waste disposed per capita	675
Kilograms of waste diverted per capita	316
Diversion rate:	31.9%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Extended Producer Responsibility:

beverage containers, compact fluorescents, used oil, lead-acid batteries, tires, paint, solvents, batteries, fertilizers/pesticides, pharmaceuticals, mercury-containing products, TVs and computers, telephones/VCRs/etc., other

Voluntary:

mercury-containing products, cell phones, autos 'Retire Your Ride'

CCME Phase 2 products:

appliances – EPR

Expansions and new products for 2010: more electronic products; small electrical appliances; cell phones; single use and rechargeable batteries; fluorescent bulbs and tubes, and mercury switch thermostats. Upcoming in 2012: large appliances; electrical and electronic tools, medical devices, automatic dispensers, and possibly packaging.

Organization handling recycling programs

Recycling Council of BC

Current landfill bans

In 2008, Metro Vancouver introduced landfill bans for all curbside recyclables and all products covered by a provincial stewardship program. Similar bans are in place in the Nanaimo, Cowichan Valley, Central Okanagan, Capital, and Kitimat-Stikine Regional Districts.

Current disposal fees and provincial levies

Avg tipping fee = \$65;

Current provincial proposals affecting waste from construction, renovation and demolition

Status/schedule for EPR for construction, renovation and demolition materials

Not yet added to future priority list/schedule for EPR, as of early February, 2010. However, in 2009 the Recycling Council of British Columbia stated⁵ that: "Provincially mandated EPR programs should cover this category, as the materials found in C&D waste can be considered products controlled by brand owners". The BC Ministry of the Environment "has already expressed the intent to mandate an EPR program for this product category, but other categories have taken precedence," the report said. During the transition, RCBC recommended local governments require waste management plans as a condition of building or demolition permits,

⁵ On the Road to Zero Waste: Priorities for Local Governments, RCBC, 2009

require demolition companies to hire a deconstruction contractor, and provide economic incentives such as deposits (refunded if target diversion is reached), impose high charges for disposal of recyclables in a public landfill, or require private landfill companies to charge more for disposal than recycling services.

Municipal: Metro Vancouver

The Greater Vancouver Regional District, known as 'Metro Vancouver', already has requirements for waste diversion plans, and bans a number of designated materials from landfill when recycling facilities have been established by the private sector. C&D materials currently banned include drywall waste and old corrugated cardboard (OCC). Differential tipping fees are used. C&D waste must be sent to a licensed recycling/processing facility. Private sector facilities have been licensed for drywall, concrete, asphalt, wood, and metal. The diversion rate in 2004 was 67%. Build Smart gives jobsite technical assistance on how to recycle materials.

Metro Vancouver is currently investigating guidelines for area municipalities to introduce a deposit-refund-type system for construction, renovation and demolition projects. They are still early in the process, and details may change considerably. Initial proposals for discussion apparently include:

- Building and demolition permit applicants would have to provide a waste management strategy.
- Municipalities would collect an administration fee (\$50/application) and a deposit fee (initially suggested as 3% of the project value for new construction, with no maximum; 75c/sf for residential demolition, 25c/sf for commercial demolition to a maximum of \$250,000; all under review).
- Refunds would be given if the project achieves target diversion rates. Proposed target for concrete, asphalt and drywall = 100%, measured by weight; target for all other C&D materials = 80% for new construction; 60% for demolition. Moneys not reclaimed would go into municipal general revenues.

Several issues have been raised during discussions, including capacity for recycling at those percentages.

6.2 Alberta

Main legislation:

Environmental Protection and Enhancement Act (2000): overall legislation including release of substances into the environment, management of waste disposal facilities and waste management, including provisions requiring manufacturers, distributors and/or retailers of designated materials to collect surcharges for approved Recycling Funds, and set up systems for recovery of those materials. EPR programs are managed by a Delegated Administrative Organization representing industry. Waste Control Regulation deals with the transportation, storage, disposal and burning of non-hazardous wastes, hazardous wastes and hazardous recyclables.

2006 Waste Indicators

Kilograms of waste disposed per capita	1,133
Kilograms of waste diverted per capita	194
Diversion rate:	14.6%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:

tires, paint, TVs and computers

Programs considered Extended Producer Responsibility:

milk cartons, beverage containers, used oil

Voluntary:

mercury-containing products, cell phones, autos 'Retire Your Ride'

CCME Phase 2 products:

none yet, but a proposal for a deposit-refund program for new construction was announced in late 2008. This would address only the 'generator-type' responsibility for wastes during the construction process – no post-consumer wastes – but would be managed by an EPR-like industry organization. Legislation was originally expected by the fall of 2009 but was put off and now the earliest date anticipated is fall of 2010. See details below.

Upcoming programs include: organics (feasibility study now), and packaging and printed materials, which includes plastic bags (discussion draft expected 2010, implementation 2012/13).

Organization handling recycling programs

Alberta Recycling Management Authority

Current landfill bans

to be determined

Current disposal fees and levies

Average tipping fee = \$25 (high = \$45); provincial disposal fee/levy to be determined

Current proposals affecting waste from construction, renovation and demolition

A memorandum of understanding was signed in 2008 between Alberta Environment, the Alberta Construction Association and the Canadian Home Builders' Association – Alberta to pursue an EPR-like industry-run deposit-refund system for construction and demolition waste.

Draft framework for the Delegated Administrative Organization (DAO) and deposit-refund program was produced, focus groups were held in spring 2009, consultations on the revised proposal were held during summer/early fall. At that time, a full regulation was expected to go to Cabinet before the end of the year. However, that has been put off and there may be no action before fall of 2010.

Main elements of the proposed system included:

- The DAO would receive waste diversion plans, receive deposits and administer the refund system, certify C&D collection facilities, recyclers and processors, and set up and manage the auditing, tracking and reporting system. Its annual reports to the Minister of the Environment would have to include information such as business plans, annual reports, audited financial statements, program targets, performance measures and results.
- A DAO structure has already been set up. The first Board meeting was held in the fall of 2009.
- Projects would be captured at application for construction/demolition permit – municipalities would have to inform the applicant of the program and distribute information materials.
- Permit applicant would be responsible for submitting the following to the DAO: waste management form, financial deposit, and administrative fee.
- Waste management form gives the project's estimated C&D waste materials (tonnes) and how they will be managed (reuse, recycling, disposal and destination).
- Administrative fee is expected to be in the order of \$85-95 per permit. May consider a sliding scale of fees to account for different administrative costs of varying project sizes.
- Financial deposits are expected to be in the order of \$0.90 - 1.00 per square foot. May be based on sq ft only for single family, but take into account project type and value as well for multi-family and ICI. Proponents are considering accepting bonds, security deposits, or letters of credit, beyond a minimum cash amount.
- After completion, the applicant can apply for a refund, based on the percentage by weight of waste diverted and landfilled (as shown on weigh scale tickets from certified processors and recyclers, or disposal facilities, respectively).
- For the Edmonton Capital Region and for Calgary Region, refunds would phase in at 25% diversion and be fully refunded for projects that reach 50% diversion. For other areas, the refunds would phase in at 15% diversion and be fully refunded for projects that reach 35%. Targets to be increased over time, "as recycling markets and infrastructure develop further".
- Unredeemed deposit amounts would form a dedicated environment fund, used to enhance C&D waste diversion.
- Possible fee reductions/exemptions and/or accepting waste/recycling handling paperwork from Built Green, Go Green and LEED projects.
- DAO will provide supporting information to applicants, such as: estimates of waste generation from different types of projects; volume-to-weight ratios, and recycling markets/contact information.
- This program deals with waste from the construction process only – no end-of-life tacked on. Demolition would be separate.

- The intent was to start with new residential construction to begin with; renovations and demolitions would be added later.

Proponents say the DAO would have flexibility to respond to varying local conditions. Some regions don't have access to the same recycling options, so in those areas the definition of 'diversion' may allow alternatives. For example, in some areas it may be deemed acceptable to stockpile concrete waste until there is enough to warrant bringing in a crusher.

Because diversion is measured as a percentage of disposal, by applicant, firms reducing waste overall should achieve higher diversion rates and therefore higher refunds. Volumes with supporting photos may be accepted where scales don't exist, or materials are diverted for reuse. On the other hand, it is difficult to quantify the most important waste reduction strategies: reductions through redesign and improved purchasing.

The DAO would also be able to simplify reporting by setting up corporate accounts for builders so totals could be reported by month or year rather than by permit. Builders would report building permit numbers and square footage, amounts of waste produced, and the name(s) of certified haulers and certified material recovery facilities (MRF) used. Then, the DAO could apply the audited diversion rate achieved at those facilities.

The Board would not aim to collect a large unredeemed deposit fund. It would be preferable to have builders meeting targets and getting their deposits back.

Proponents say this approach will give industry much more control and help produce a more practical result than alternatives.

Status/schedule for EPR for construction, renovation and demolition materials

See above.

Municipal: Calgary

In January 2004, Calgary set itself a goal to divert and recycle 80% of the city's total waste stream by the year 2020. Tipping fees for loads containing designated materials (concrete, brick and masonry block, asphalt and metals) have increased to \$105/tonne as of Nov 1, 2009; they will rise to \$120 as of January 1, 2010 and \$130 as of Jan 1, 2011. In the fall of 2009, Calgary opened a pilot Diversion facility in the north end of the city for untreated wood, drywall, asphalt shingles and drywall, scheduled to operate for one year. Tipping fee for clean separated loads of these materials is \$65.

Longer term strategy included "develop a standardized material recovery plan and waste diversion statement to accompany applications for building/demolition permits", get baseline diversion data, information on markets, case studies, etc. and review bylaws and/or policies for on-site sorting, and licensing of material recovery facilities.

6.3 Saskatchewan

Main legislation:

Environmental Management and Protection Act (2000): sets out overall powers and responsibilities, including offences and penalties. Litter Control Designation Regulations (1998) outline deposit/refund system for beverage containers. Scrap Tire Management Regulations (1998) says retailers must have their own program or sign on with an acceptable organization to collect and recycle scrap tires.

A major review of this and related environmental legislation, published in November of 2009, proposes a new results-based regulatory system. Elements include a Saskatchewan Environmental Code containing performance standards and accepted alternatives, a new process for contaminated sites, and expanded powers to regulate landfill operation, solid waste management and minimization, and stewardship programs. Proposed changes would affect many sectors including solid waste management and stewardship programs in general. First regulations are expected within about a year.

2006 Waste Indicators

Kilograms of waste disposed per capita	844
Kilograms of waste diverted per capita	108
Diversion rate:	11.4%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:
beverage containers, tires

Programs considered Extended Producer Responsibility:
used oil, paint, TVs and computers

Voluntary:
milk containers, pesticide containers, mercury-containing products, cell phones, autos
'Retire Your Ride'

CCME Phase 2 products:

none yet

Organization handling recycling programs

SARCAN (division of the Saskatchewan Association of Rehabilitation Centres) administers the beverage container deposit/refund program, which gets a 92% return rate. Saskatchewan Scrap Tire Corporation (non-profit, non-government) operates the tire program. Saskatchewan Waste Electronic Equipment Program for various electronics. Saskatchewan Association for Resource Recovery Corporation (non-profit, non-government) operates the used oil material recycling program for used oil, oil containers, and used oil filters. Product Care Association (non-profit, non-government) operates the recycling program for waste paint and paint containers.

Current landfill bans

No provincial bans.

Current disposal fees and levies

Some municipalities do not charge landfill tipping fees and those which do charge tipping fees can range from \$20 to \$44 per tonne. No provincial levy.

Current proposals affecting waste from construction, renovation and demolition

See below.

Status/schedule for EPR for construction, renovation and demolition materials

No current plans or timeline.

Municipal: Regina

The City operates a regional landfill, with no nearby private sector competition. It charges zero tipping fees for delivery of clean loads of asphalt, gravel, brick and fill dirt. Also reduced tipping fees of \$19/tonne for clean loads of asphalt shingles. General waste and mixed loads (e.g. asphalt/concrete) pay \$38/tonne. Clean concrete is recycled.

Regina has been reviewing its waste management plan during 2009, with a key report issued in June⁶ and public comment invited over the fall and winter. The vast majority of waste management and diversion services targeting the IC&I and C&D sector are provided by the private sector, with minimal involvement by the City, the report says. "However, the City recognizes that the IC&I and C&D sectors produce the majority of waste going to the City landfill and therefore sees a need to become more involved in promoting waste diversion activities within these sectors."

Regina worked with a C&D sector stakeholder group to discuss options and strategies. They identified two possible packages: basic and extended, as well as items for future consideration.

Under the basic package Regina would set up an ongoing C&D Sector working group, market development for recyclables, green building technical assistance, and further differential tipping fees. The extended package would add a C&D material recycling facility, require LEED certification for municipal buildings, encourage similar certification for private sector developments and introduce landfill bans. Items recommended for future consideration were: mandatory recycling, requiring landfill permits for waste haulers and recyclers, introducing mandatory waste reduction plans and mandatory C&D recycling targets, and instituting refundable deposits on C&D projects.

Decisions are expected to be made this spring.

⁶ Let's Talk Trash, Waste Plan Regina Report, Genivar Consultants *for* City of Regina, June 2009

6.4 Manitoba

Main legislation:

Manitoba's Waste Reduction and Prevention Act (WRAP), introduced in 1990, requires manufacturers, distributors and/or retailers of designated materials to collect and remit WRAP levies and fees; regulations establish and set rules for industry-funded stewardship organizations. Levies pay for the collection, transportation, storage, processing and disposal of designated materials, as well as public information/marketing. The PPP Stewardship Regulation was approved in December 2008. The Waste Recovery and Recycling Support Fund (amendment to the WRAP), introduced provincial disposal levies in 2009.

2006 Waste Indicators

Kilograms of waste disposed per capita	869
Kilograms of waste diverted per capita	130
Diversion rate:	13.0%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Extended Producer Responsibility:

milk cartons, beverage containers, printed materials, used oil, tires

Voluntary:

mercury-containing products, cell phones, autos 'Retire Your Ride'

CCME Phase 2 products:

none yet

Organization handling recycling programs

Multi-Material Stewardship Manitoba – a new industry funding organization formed in 2006 – will start EPR program operations for packaging and printed paper in April 2010 (formerly under product-stewardship-type program). Manitoba Association for Resource Recovery Corporation provides program for used oil/oil filters/containers. Tire Stewardship Board handles used tires.

Current landfill bans

to be determined

Current disposal fees and levies

Average (municipal) tipping fee = \$34 (high = \$50).

A provincial fee of \$10 per tonne on residential and ICI waste disposal was introduced in 2009. This initially applies to large Class 1 landfills (July 1, 2009), Smaller Class 1, Classes 2 and 3 phased will be phased in in 2011. Funds are to encourage sustainable waste management, recycling and diversion. Green Manitoba (provincial agency) administers the fund. Revenues are to be split, with 80% returned to municipalities (amount based on their tonnage of recycling as a share of Manitoba's total recycling), and 20% kept for provincial administration and to enhance the province's household hazardous waste and e-waste programs.

In Winnipeg, this will increase tipping fees for commercial garbage and garbage from other municipalities to \$43.50/tonne from \$33.50. Small load fees (for loads of less than half a tonne) increase to \$10 from \$5.

Current proposals affecting waste from construction, renovation and demolition

See above.

Status/schedule for EPR for construction, renovation and demolition materials

No immediate plans reported. However, in its 2005 report 'Regaining the Lead; a Waste Minimization Strategy for Manitoba', Resource Conservation Manitoba (RCM) said that the diversion rate for construction and demolition debris was only 9% -- the third lowest of those given for any province. Also, that although the province's Waste Reduction and Prevention Strategy had identified C & D waste as one of three priority areas to be addressed between 1996 and 2000, the province only prepared guidelines for C & D waste disposal (in 2001-2), and no active support for diversion was offered.

RCM recommended aggressive programs for six categories of waste – including C & D. While it supported the EPR model for most materials, RCM recommended "alternative best practice collection and recycling systems be adopted" for "those materials for which designated producers or stewards are difficult or impossible to identify, such as organics and C&D waste".

6.5 Ontario

Main legislation:

Environmental Protection Act. Regulation 347, the primary waste regulation, sets requirements for managing wastes, also certificate of approval process for people/companies operating waste storage/handling/disposal sites). 3 Rs Regulations were introduced in 1994 (see below).

Waste Diversion Act, introduced in 2002, establishes specific programs, with non-profit Industry Funding Organizations (IFOs) for each program, overseen by Waste Diversion Ontario. Rules for IFOs, fee rules, etc. set in regulation. But the materials targetted under these programs represent less than 15% of Ontario's waste.

Ontario's waste strategy underwent a complete review in 2008, and the Minister's report 'From Waste to Worth: The Role of Waste Diversion in the Green Economy' was released for public comment in the fall of 2009. Deadline for comments was February 1, 2010. Four key themes emerged in the review: full, individual Extended Producer Responsibility; waste reduction; ICI waste diversion including construction and demolition waste; and better role definition, governance and administration. New proposals are in active discussion.

2006 Waste Indicators

Kilograms of waste disposed per capita	822
Kilograms of waste diverted per capita	189
Diversion rate:	18.7%

Ontario reports that its diversion rate for wastes from the residential stream is 39%; it is the ICI stream, with only 12% diversion, that pulls the figures down.

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Materials covered by both Product Stewardship and EPR
milk cartons, beverage containers, printed materials

Programs considered Extended Producer Responsibility:

tires, paint, solvents, batteries, fertilizers/pesticides, pharmaceuticals, mercury-containing products, TVs and computers, telephones/VCRs/etc.

Voluntary:

autos 'Retire Your Ride'

CCME Phase 2 products:

Plan for appliances.

Waste Electrical and Electronic Equipment (2008 & 2009) initially covered all residential and ICI computers, printers, monitors, TVs; phase 2 starts April 1 2010 and adds cell phones cameras and other electronics. The program is fully funded and operated by industry through the Ontario Electronic Stewardship Board (includes manufacturers and retailers). The Used Tire Diversion Program launched in September 2009, also fully funded and operated by industry, is expected to divert 90% of passenger and almost 50% of off-road tires. The Industry Funding Organization (IFO) is Ontario Tire Stewardship (Board includes Canadian Rubber Association, Ontario Tire Dealers Association, manufacturers and retailers)

Organization handling recycling programs

Waste Diversion Ontario and the WDO Board oversee programs and IFOs. This includes the residential blue box program of 2004 (for municipalities with a population of 5,000 or more), where industry reimburses municipalities 50% of the net cost to collect and recycle newspaper, cardboard, glass, metal and plastic. The IFO is Stewardship Ontario. The municipal hazardous or special waste program of 2008 & 2009 covers paints, solvents, oil filters, batteries and antifreeze generated in the residential waste stream, and small quantity from ICI generators. On July 1, 2010, the program will add corrosive chemicals, fluorescent light bulbs, rechargeable batteries, pharmaceuticals, etc. and will be a full industry responsibility program. IFO is Stewardship Ontario.

Current landfill bans

to be determined

Current disposal fees and levies

Tipping fees average \$58 to \$75 a tonne. No provincial disposal fee yet, but one is recommended.

Current policies affecting C&D wastes

Ontario introduced legislation in 1994 requiring larger construction and demolition projects of more than 2,000 m² to prepare waste audits and waste reduction work plans before starting construction, and to separate designated materials on site for delivery to approved recycling facilities. The Waste Reduction Action Program (WRAP), regulation 102/94 and 103/94, introduced by NDP government, appears to have languished after a change in government. In July 2006, Ontario's Ministry of the Environment started an inspection blitz related to the Liberal

election promise to increase the waste diversion rate in Ontario to 60%. According to the Council of Ontario Construction Associations at that time, "Companies failing to comply after being notified by the Ministry can draw fines of \$500 for minor offences and up to \$6 million per day for a first major offence. Individuals could be assessed millions of dollars in fines and/or face jail sentences of up to five years."⁷

ICI sector regulations are found in regulation 102/94. Part IV requires builders of large construction projects (at least 2,000 m²) to do a 3Rs waste audit and waste reduction work plan before starting construction; Part V applies same for demolition; interior renovations which do not involve construction of new buildings or demolition of existing building are not subject to the regulations.

Regulation 103/94 requires source separation of brick and portland cement, steel and wood (not painted or treated or laminated) at demolition projects; also drywall and cardboard for new construction. Can be taken to a municipal waste recycling site or a site where the waste is wholly used by an 'end user' (see Ontario's Waste Management Regulation 347) or to the company's own or the owner's permanent premises; builders, subcontractors, drywall companies can transport their own source-separated waste to an approved municipal waste facility (recycling) without a certificate of approval (for transport).

New proposals affecting waste from construction, renovation and demolition

See below for discussion of future plans for EPR-type program for C&D materials.

In addition, the 'From Waste to Worth' report recommends Ontario introduce a provincial disposal levy of \$10.62/tonne, which would apply to "all waste discarded in both the ICI and residential sectors". Revenues would be used to support waste diversion efforts of businesses, consumers and municipalities. The report says waste disposal cost in a landfill is about \$58 to \$75 per tonne, whereas the net cost to divert Blue Box materials ranges from \$150 to \$180/tonne and the average cost to divert ICI waste is approximately \$95/tonne. It also gives examples of low levies (\$1.57/tonne in Oklahoma) to high ones (\$142/tonne in the Netherlands).

Status/schedule for EPR for construction, renovation and demolition materials

Staff are currently preparing recommendations to the Minister for changes to the overall Waste Diversion Act and regulations. A robust expanded EPR framework is central to these recommendations. Designating C&D materials was identified as a 'short term' priority in the 'From Waste to Worth' review recommendations. It is anticipated the legislation could be passed by the end of 2010, then there would be another year or two before specific C&D materials would be designated, and probably another year before any program would come into effect.

Discussions with construction industry stakeholders started in February 2010. There is an awareness that construction is a complex industry which may not fit a standard EPR approach.

Key new principles proposed for EPR in Ontario are:

- individual producers become fully responsible for meeting diversion requirements

⁷ Published in the Daily Commercial News

- producers are manufacturers, brand owners, or first importers of a product or packaging made with designated material
- each producer must ensure that its share of the materials sold in the Ontario marketplace gets diverted
- applies whether the product is discarded by households in the municipal waste stream or by businesses or institutions in the ICI waste stream
- producers may develop their own waste diversion plan or join a materials management scheme
 - a materials management scheme can be several producers joining together, or a service provider offering services to more than one producer; they could be for-profit or not-for-profit; and offer all or just some of the services to meet producers' obligations
 - there can be competing materials management schemes
 - producers remain responsible even if their materials management scheme fails to meet targets
- producers must meet outcomes-based requirements:
 - meet materials-specific waste diversion targets
 - track material from collection to final destination (including markets and end-uses)
 - ensure consumers have access to convenient collection and/or drop off
 - report annually on sales into the Ontario market of designated products and packaging, and results achieved
- regulations will set out default requirements for producers who do not have an approved waste diversion plan or belong to an approved materials management scheme, or whose materials management scheme or plan does not provide the required outcomes; ignorance of the requirements does not relieve someone from their responsibility
- non-compliance could result in penalties
- the ministry will develop a five-year schedule of materials to be diverted
 - C&D wastes will be designated two years after the amended Waste Diversion Act comes into effect
 - C&D collection and diversion targets will be developed with stakeholders
- small changes to the concept of diversion (but probably still discourage energy from waste and fuel substitution schemes)
- 'complementary measures' in the C&D sector include:

- banning designated materials from landfill
- imposing a provincial disposal levy on all wastes sent to disposal
- using revenues from the levy to support waste diversion efforts of businesses, consumers and municipalities

6.6 Quebec

Main legislation

Environment Quality Act (especially Section 53.4), draft new Quebec Policy for Residual Materials Management (last was 1998-2008) and Action Plan 2010-2015 (draft). Major changes in 1998-2000 set out objectives (in order of importance: source reduction, reuse, recycling, recovery and disposal 4R-D), increase manufacturers' responsibility for their products, enable mandatory municipal implementation, mandatory establishment and funding of watchdog committees by disposal site operators, and rights of Quebec Administrative Tribunal to modify tipping/processing rates. Also require regional municipalities or urban communities to produce waste management plans with public consultation and monitoring, give them the right to limit or forbid waste materials from outside their regions (flow control), and require businesses to collect and recover materials. A full review of policy took place in 2008: new proposals were published for comment in late 2009; deadline for comments is February 23, 2010.

Sustainable Development Act: outlines social equity and solidarity, participation and commitment, responsible production and consumption, the 'polluter pays' principle, and internalization of (life cycle) costs. Two additional principles particular to residual materials management: 4R-D and regionalization.

Current Product Stewardship – EPR Programs

2006 Waste Indicators

Kilograms of waste disposed per capita	890
Kilograms of waste diverted per capita	321
Diversion rate:	26.5%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:

milk cartons (PS and EPR), printed materials, tires

Programs considered Extended Producer Responsibility:

used oil, beverage containers, paint

Voluntary:

autos 'Retire Your Ride'

CCME Phase 2 products:

none yet

Quebec also has a program for organics pending. An omnibus regulation has been drafted for EPR with core requirements that will apply to all programs, plus specific requirements for used oil and paint programs transitioning from stewardship to EPR, and new programs for electronics, batteries and mercury lamps

Organization handling recycling programs

RECYC-QUEBEC, a government corporation formed to promote and encourage reduction, reuse, recovery and recycling of various products.

Current landfill bans

No provincial ban on C&D waste.

Current disposal fees and levies

Average tipping fees range from \$40 to 130 per tonne for engineered landfills and less than \$40 per tonne for construction or demolition waste landfills.

In addition, operators of all landfill sites, including construction and demolition waste landfills, have to pay a provincial disposal fee of \$10 per tonne for materials (except residue from incinerators, clean fill used as cover materials, and wastes recovered for recycling/reuse/etc) Money is remitted to the Green Development Fund, created under the Sustainable Development Act. Split, with 85% to municipalities towards their residual materials management plans; the other 15% used by the Ministry of Sustainable Development, Environment and Parks for priority activities. Brought in during 2006.

Current proposals affecting waste from construction, renovation and demolition

Quebec introduced a target of 60% waste diversion/recovery of C&D materials in 2004. The new Residual Materials Management Policy and Action Plan (2009 draft) would increase the target for C&D waste diversion to 70% by 2015.⁸

The province intends to impose an additional disposal fee of \$9.50/tonne as part of the new draft policy, starting April 1, 2010 and running five years. Total would add up to \$278.4 million over the five years, including fees on municipal disposal of residential wastes. Part of the funds (\$30 million) would be earmarked specifically for R&D for new recovery/reuse technologies, setting up CRD recycling centres and developing markets, starting in 2011. Another \$140.5 million will be earmarked for program of treatment of organic wastes (biomethanization, composting and

⁸ The review report commented on progress towards waste diversion of C&D materials: "Entre 2004 et 2006, les quantités récupérées dans le secteur CRD ont progressé de 45 %, tandis que dans le secteur ICI, elles se sont accrues de seulement 6,4 %. Le secteur CRD a dépassé son objectif, avec un taux de récupération de 69 % (objectif de 60 %), alors que le secteur ICI est toujours en deçà du sien, avec un taux de récupération de 49 % (objectif de 80 %) ... La Commission a été impressionnée par la récupération grandissante de résidus d'asphalte, de béton, de brique, de pierre et de bois dans les CRD."

provincial administration). Further increases in the disposal fee are possible in future if recovery targets are not met

As well, the 2010-2015 Action Plan includes a ban on paper and cardboard at landfill sites by 2012. It also says the government wants to encourage municipalities, at the time of building permit, to require that materials be taken to a recycling centre, or to adopt a regulation to this effect. Quebec will provide guidelines for municipalities (2010) and information for businesses (2011) on how to meet the requirement.

The province's draft policy was published in November, 2009. Comments due February 23. Implementation to follow schedule as set out in the Action Plan.

Status/schedule for EPR for construction, renovation and demolition materials

An omnibus regulation for EPR programs was tabled for comment in November 2009. Core requirements will apply to future EPR programs. There are no specific plans for EPR for C&D materials yet. Discussions have started with the Regroupement des recuperateurs et des recycleurs des materiaux de construction et de demolition du Quebec (3RMCQ) group.

Quebec's proposed core requirements for EPR include:

- 'producer' includes "Every enterprise that markets a new product referred to in this Regulation under a brand, a name or a distinguishing guise owned or used by the enterprise" (or, if a product is marketed under more than one brand, name etc.) ... "the enterprise responsible for the product's design" (or) "the first supplier of that product in Quebec, whether or not the enterprise is the importer"
- a 'producer' as above has individual responsibility to recover and reclaim (themselves or through a recognized program) any product of the same type that is deposited in one of its collection points or for which the enterprise offers a collection service.
- a recovery and reclamation program must focus on reuse, recycling, biological reclamation and energetic reclamation, or final disposal, in that order, unless a life cycle analysis shows one method is more advantageous, or existing technology is not available
- programs must also track products from collection to final destination, favour local management, provide for collection points, include information awareness programs for product users, include R&D into recycling techniques and markets
- the regulation includes very detailed requirements for collection systems and location of collection points
- each producer must report annually on quantity of product marketed by subcategory and by brand name or logo; quantity recovered and reused, recycled, otherwise diverted or sent to disposal; activities outlined above, and costs.
- a producer which does not meet its recovery targets must pay a fee to the provincial Green Fund based on the shortfall

6.7 New Brunswick

Main legislation:

Clean Environment Act, 2002: covers release of contaminants including solid waste, and management of facilities for treatment and/or disposal. Regulations cover stewardship programs and the 12 Regional Solid Waste Commissions.

The provincial Waste Reduction and Diversion Action Plan (2001) included expanding waste collection to include small furniture and building materials, looking at tiered tipping fees, potential landfill bans and EPR, and requiring regional commissions to create waste reduction and management plans and provide recycling services for specific materials.

Environmental Trust Fund Act (funded from fees under the Beverage Containers Act in 2002) provides funding for environmental projects in New Brunswick (conservation, protection, restoration, sustainable development, education, beautification of visual environment).

2006 Waste Indicators

Kilograms of waste disposed per capita	601
Kilograms of waste diverted per capita	337
Diversion rate:	35.9%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:

milk cartons, used oil, tires

Programs considered Extended Producer Responsibility:

beverage containers, paint

Voluntary:

household special wastes, pesticide containers, ink cartridges, mercury-containing equipment, cell phones, autos 'Retire Your Ride'

CCME Phase 2 products:

none yet

New Brunswick is expecting to have an EPR program regulation for oil, used oil, glycol and containers by the fall of 2010, and another for electronics about six months to one year later.

Organization handling recycling programs

Currently, paint is handled by the Product Care Association for paint brand owners, while beverage containers are handled by distributors agents Encorp Atlantic Inc. (soft drink), Rayan Investments Ltd. (recyclable alcohol containers) and Brewers (refillable beer bottles.)

Current landfill bans

No provincial landfill bans. The province is divided into 12 regional solid waste commissions; municipalities sit on those and do not have the power to enforce their own independent landfill bans. Designated C&D materials are accepted at C&D landfills or areas of the main landfill.

Current disposal fees and levies

Differential tipping fees – in general C&D loads are charged half the rate of mixed residential garbage, which can each to more than \$100/tonne in some areas. No provincial disposal levy.

Current proposals affecting waste from construction, renovation and demolition
to be determined

Status/schedule for EPR for construction, renovation and demolition materials

No plans at this time.

6.8 Nova Scotia

Main legislation

Environment Act 1995: Part IX, Waste Resource Management, committed the province to establishing a waste resource management strategy from the province and adopting the CCME 50% waste diversion goal for the year 2000, and gave it the power to set waste reduction targets and/or ban landfilling of specific materials. Seven Waste Resource Management Regions were given the same 50% reduction targets, through resource management plan, cost sharing, and programs for source reduction, reuse, recycling and composting.

Solid Waste Resource Management regulations (2000) cover landfill bans, requirements for operation of commercial composting sites and landfill sites, establish regional waste reduction coordinators in seven regions, and establish the Resource Recovery Fund and Board. Funds in the RRF are distributed to municipalities in proportion to their success in waste diversion.

The Environmental Goals and Sustainable Prosperity Act 2007 (commitment to reducing waste sent to landfills by more than one third by 2015 -- "the solid-waste disposal rate will be no greater than three hundred kilograms per person per year by the year 2015 through measures that include the development of new programs and product stewardship regulations").

'Renewal of Nova Scotia's Solid Waste Resource Management Strategy' consultations took place early in 2009, and a summary report was published in the fall 2009. Significant changes are expected in the proposed strategy, expected to be published for further comment in the spring of 2010.

2006 Waste Indicators

Kilograms of waste disposed per capita	430
Kilograms of waste diverted per capita	295
Diversion rate:	40.7%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:

milk cartons (PS and EPR), beverage containers, newspapers and telephone directories, used oil, tires, paint, pharmaceuticals,

Programs considered Extended Producer Responsibility:

milk cartons (PS and EPR), TVs/computers, telephones/VCRs/etc. (Electronic waste), used oil

Pending:

see below

Voluntary:

printed materials, household special wastes, pesticide containers, ink cartridges, mercury-containing equipment, autos 'Retire Your Ride'

CCME Phase 2 products:

none yet

Nova Scotia also has a program in place for organics, but it is not a stewardship program; it's run by municipalities.

Organization handling recycling programs

Municipalities collect waste, blue bag recyclable materials (fibre and containers) and organics curbside. Resource Recovery Fund Board Inc. is a private-not-for-profit organization which administers funding for municipal or regional diversion programs, development and implementation of industry stewardship programs, education and promotion of value-added manufacturing (e.g. new equipment for diversion, or R&D). The Board includes representatives from industry, municipalities and the province. It is funded from deposit-refund fees, donations and material-specific surcharges (e.g. tires). Local or regional municipalities receive \$20 for each tonne of wastes diverted - total to date is more than \$5 million disbursed.

Current landfill bans

Nova Scotia imposes extensive provincial bans on recyclable products, including (as the only jurisdiction in North America) compostable organic matter, according to the Final Report on Nova Scotia's 1995 Solid Waste Strategy (2009). There are no bans on C&D materials at the provincial level.

Current disposal fees and levies

Average tipping fee = \$64 (high = \$94); no provincial disposal levy yet.

Current proposals affecting waste from construction, renovation and demolition

The 'Renewal of Nova Scotia's Solid Waste Resource Management Strategy' consultations considered specific recommendations on C&D waste. A staff draft of recommended overall strategy will be presented to government in the spring of 2010. Resulting strategy proposals will be published for further consultations. No details of specific recommendations are available in advance of ministerial approval.

The province and RRFB Nova Scotia co-sponsored a C&D management study in 2006 that recommended:

- Better tracking

- Municipal licensing of C&D processing sites
- Revised definition of C&D
- Landfill bans on wood, metal and clean fill
- Allowing for processed C&D use for various purposes
- Creating more diversion opportunities
- Standardizing disposal sites
- Establishing protocols for infrastructure projects
- Consultation with stakeholders
- C&D Charter Process to create options for increased C&D diversion

Nova Scotia created an advisory committee with representatives of municipalities, generators, construction association, end users. Looking at bans, approval conditions for C&D landfill, transfer stations and processing facilities, tracking/compliance of C&D waste at the time of generation, and economic incentives/disincentives (taxes, fees, stewardship, etc.)

Status/schedule for EPR for construction, renovation and demolition materials

The consultation draft raises the possibility that construction and demolition wastes should be addressed through EPR programs. Early indications from staff suggest full EPR is not anticipated in this revision, but partial EPR is a possibility..

Municipal programs – Halifax Regional Municipality

Halifax Regional Municipality recently won an award for C&D waste handling. C&D materials are banned from disposal at the main Otter Lake landfill. The Halifax bylaw says C&D waste must be diverted to licenced processing facilities.

There are two operators: RDM Recycling and Halifax C&D Recycling Ltd. The bylaw says they must achieve a 75% recovery rate. Materials accepted are: wood, roofing materials, insulation, doors/windows, vinyl siding, rugs/carpeting, asphalt shingles, vinyl flooring, drywall/plaster, counter tops/cupboards, vapour barrier, metals, tiles. Lower fees are charged for clean, separated loads. (Littering fine in Halifax \$445.) In June 2002 the bylaw was amended to prohibit export of wastes (including ICI wastes) outside the region – known as flow control. This was challenged in court and the municipality won in the Nova Scotia Court of Appeal.

Also, applicants for a demolition permit must identify the facility(ies) where waste will be transported, provide proof of insurance and pay a fee of \$50.

Most C&D in HRM is diverted into landfill cover or other on-site landfill use. It appears the Province would like to see more value-added diversion occur on a provincial basis.

6.9 Prince Edward Island

Main legislation:

Environmental Protection Act and regulations (2002). Waste management section includes permit and operating requirements for landfills, composting and recycling operations and construction

and demolition disposal sites; other regulations for handling of specific materials. Waste management comes under the Pollution Prevention division of the PEI Department of Fisheries, Aquaculture and the Environment.

2006 Waste Indicators

Kilograms of waste disposed/diverted per capita	n/a
Diversion rate:	37.8%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:

used oil, lead-acid batteries, tires

Programs considered Extended Producer Responsibility:

beverage containers

Pending:

electronics

Voluntary:

mercury-containing equipment, cell phones, autos 'Retire Your Ride'

CCME Phase 2 products:

none yet

PEI also has a plan in place for organics.

Organization handling recycling programs

Island Waste Management Corporation, a provincial crown corporation formed in 1999, administers and provides solid waste management services to both the residential and the ICI sectors for the province. It operates and maintains most provincial disposal sites, and administers the 'Waste Watch' program, which allows residential and ICI to separate their waste at source into recyclables, compostable organics and waste.

Current landfill bans

to be determined

Current disposal fees and levies

Average tipping fee = \$100; no provincial disposal levy

Current proposals affecting waste from construction, renovation and demolition

to be determined

Status/schedule for EPR for construction, renovation and demolition materials

to be determined

6.10 Newfoundland

Main legislation:

Environmental Protection Act, 2002 cE-14.2. Consolidated five existing acts: includes general requirements; storage, handling, processing and treatment of all forms of waste; power to designate materials for special management and set fees and levies. Approach to designated materials stresses stewardship and pollution prevention. Waste management comes under the Pollution Prevention division of the Newfoundland and Labrador Department of the Environment. In 2007, the government announced a multi-year Waste Management Strategy, aiming to reduce the amount of waste going into landfills in the province by 50 per cent supported by the use of disposal bans and development of new waste diversion programs. Key elements included establishing 15 waste management regions, and developing three full service regional waste management facilities in the Avalon, Central and in Western areas of the island portion of the province (operational by 2010, 2011 and 2016, respectively).

2006 Waste Indicators

Kilograms of waste disposed per capita	800
Kilograms of waste diverted per capita	60
Diversion rate:	6.9%

Current Product Stewardship – EPR Programs

CCME Phase 1 products:

Programs considered Product Stewardship:

beverage containers, used oil, tires

Pending:

paint

Voluntary:

pesticide containers, ink cartridges, mercury-containing equipment, autos ('Retire Your Ride')

CCME Phase 2 products:

none yet

Organization handling recycling programs

Multi-Material Stewardship Board, a provincial crown corporation established in 1997, develops and implements program, manages the Newfoundland and Labrador Waste Management Trust Fund.

Current landfill bans

Cardboard in some areas and hazardous waste.

Current disposal fees and levies

Average tipping fee = \$ to be determined; no provincial disposal levy

Current proposals affecting waste from construction, renovation and demolition

Regulations for separate construction and demolition waste landfills have been passed. The province is expecting one or two C&D sites to open within the next year.

Status/schedule for EPR for construction, renovation and demolition materials

No plans or discussions yet.

Appendix A: About the CCME

The Canadian Council of Ministers of the Environment (CCME) is comprised of the environment ministers from the federal, provincial and territorial governments. These 14 ministers normally meet at least once a year to discuss national environmental priorities and determine work to be carried out under the auspices of CCME. The Council seeks to achieve positive environmental results, focusing on issues that are national in scope and that require collective attention by a number of governments.

CCME aims to assist its members to meet their mandate of protecting Canada's environment. CCME serves as a principal forum for members to develop national strategies, norms, and guidelines that each environment ministry across the country can use. CCME is not another level of government regulator, but a council of government ministers holding similar responsibilities.

Ministers lose neither autonomy, authority, nor responsibility by agreeing to work collaboratively with their colleagues through this Council. Each minister is accountable to his or her government, according to the laws and statutes governing their jurisdiction.

Ministers set the strategic direction for the Council, setting out the broad outcomes they seek to achieve.

In response, senior officials establish working groups of experts from the federal, provincial, and territorial environmental ministries to accomplish specific goals, with the support of a permanent secretariat. In most cases, group membership may include experts from other relevant government departments (such as Health).

Depending on the nature of the work, expertise from the private sector, academia, environmental and health public interest groups, and aboriginal participation may be sought directly through creation of an advisory committee. The working groups develop recommendations for ministers' consideration. Once approved, these recommendations are used by CCME's member governments in their environmental management role.