



Transitioning to Zero Waste -
What can local governments do NOW?

*Within a Zero Waste / EPR planning framework,
local governments will get out of the business of managing product wastes.*

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Comments and suggestions are welcomed.

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FOR REFERENCE VISIT THESE SITES

ZWIA: *Zero Waste Definition adopted November 29, 2004*
www.zwia.org/standards.html
(cited 16 March 2006)

GRRN: *Zero Waste Community/What You Can Do*
www.grrn.org/zerowaste/community/index.html
(cited 16 March 2006)

ILSR: *Aiming for ZERO WASTE: ten steps to get started at the local level*
www.no-burn.org/resources/library/10steps.html
(cited 16 March 2006)

RCBC: *A Zero Waste Tool Kit for Local Government*
www.rcbc.bc.ca/hot_topics/articles/Zero_Waste_Local_Gov_Kit.pdf
(cited 16 March 2006)

Transitioning to Zero Waste

What can local governments do NOW?

For a century local governments have been responsible for providing and/or regulating community waste management services. Over time, the quantity of waste has increased and so have municipal costs. Despite efforts to reduce waste through an “Integrated Waste Management¹” approach, vast amounts of easily recovered materials continue to flow to municipal waste landfills and incinerators in North America.

Growth in consumption continues unabated, reflected in rising generation of product-related wastes that is not equaled by increases in recycling.² As a result municipal waste reduction stalled ten years ago and the quantity of municipal wastes flowing to landfills and incinerators in the United States has started to increase again, driven by product and packaging consumption³. Attracting less attention is the success story of municipal yard waste composting. During the past 15 years, yard waste composting has soared from nearly nothing to almost 60 percent but improvement has stalled since 2000. Meanwhile, municipal food waste recycling has yet to begin. Less than 3 percent of America’s food scraps are recycled each year, resulting in nearly 30 million tons of valuable material going to waste and contributing to global warming⁴. It’s quite a mixed picture and the trend-lines are not promising.

A new planning approach

A new waste management planning approach has been proposed that appears to offer a way forward. Known as “Zero Waste,” this planning approach emphasizes *waste prevention* rather than end-of-pipe waste management. Zero waste is a *design principle*, rather than a goal or a target.

The GrassRoots Recycling Network (GRRN)⁵ describes Zero Waste as follows:

“Zero Waste is a design principle for the 21st Century. It includes recycling but goes beyond recycling by taking a whole-system approach to the vast flow of resources and waste through human society.”

¹ The Solid Waste Association of North America (SWANA) defines Integrated Solid Waste Management as “a series of complimentary [sic] actions to reduce the quantities of solid waste generated.” The series includes *recycling of materials* and *composting of the organic fraction of solid waste* alongside the traditional menu of management options comprised of *combustion with the recovery of energy* and *sanitary landfilling*. Source: SWANA Technical Policy T-1.

² Between 1995 and 2003, the generation of product-related wastes grew by 17.3 million tons (while municipal recovery of materials in products increased only 9.3 million tons). Durable goods, non-durable goods, and containers and packaging generation all increased during this period. Source: US EPA, 2005.

³ Discards to landfills and incinerators were 158 million tons in 1995 and 164 million tons in 2003 (up 4%). Discards of product-related wastes grew from 113 million tons to 121 million tons (up 7%) while discards of non-product wastes declined slightly from 45 to 43 million tons. Source: US EPA, 2005

⁴ In landfills, decomposition of organic materials produces methane, a GHG that is 21 times more potent in trapping heat in the atmosphere than CO₂. Landfills are the largest human-related source of methane in the U.S., accounting for 34% of all methane emissions. Source: US EPA Landfill Methane Outreach Program: www.epa.gov/methane/sources.html

⁵ www.grrn.org

Zero Waste planning engages many more players than just the local governments traditionally responsible for waste management. From a whole-system perspective, the local government's role is complemented by the roles of others.

Three-quarters of the wastes that currently flow through our municipal waste system are *products and packaging*⁶. Product and packaging decisions are made by brand-owners in the context of a marketing plan. Marketing plans today are based around long-distance distribution and the expectation that products will become "municipal waste" at the end of their useful lives. **Extended Producer Responsibility (EPR)** is a policy that extends the marketing plan so that the brand-owner makes provisions for managing products at the end of their useful lives. EPR is an essential component of a Zero Waste planning framework. Within a Zero Waste framework, brand-owners would design and oversee "cradle-to-cradle"⁷ product marketing systems. Products would never become "municipal" waste at all, but would be bought back by their producers (perhaps in some cases in competition with others who are willing to pay more) and returned to the industrial system as "technical nutrients."

Just as product brand-owners are in the best position to design and implement Zero Waste marketing plans for their products, local governments are in the best position to design and implement Zero Waste management plans for community-generated organic materials which have no brand-owner. Within a Zero Waste community planning framework, yard trimmings and food scraps would be managed within the community beneficially, so they serve as "biological nutrients" rather than contributing to global warming in landfills.

Fully implemented, such a Zero Waste planning approach would lead to a world without waste – or as GRRN says "darned close." A Zero Waste planning approach has three features to recommend it.

First, this planning approach makes best use of both the producer's and the community's specific areas of influence and expertise. Producers can apply their expertise in marketing and asset management to achieve desired recycling outcomes at the least cost to the consumer. Local governments can exercise their authority to provide programs protecting public health and their expertise in management of wastes by providing efficient programs to manage putrescible wastes. Local governments also have authority over land-use planning and zoning that can be applied to encourage commercial EPR services in the community, fostering a livable community and a diversified local economy.

Second, a Zero Waste planning approach is likely to have great political appeal to local governments. By potentially eliminating 75 percent of the waste stream, and the stream that is most costly to manage, EPR will significantly reduce public waste management costs. GRRN notes that "producer responsibility is increasingly attractive to policy makers facing budget deficits and revenue shortfalls. Today's fiscal climate presents a moment of tremendous opportunity to make producer responsibility for waste a reality."

Finally, a Zero Waste planning approach promises to make recycling economic. Unlike the traditional Integrated Waste Management approach where the costs and benefits of recycling

⁶ In 2003 durable goods represented 17 percent of total wastes generated; non-durable goods 26 percent, and packaging 32 percent. Durable goods include appliances, furniture and carpeting, tires, etc. Non-durable goods include printed paper products, disposable food service items, clothing and footwear, etc.

⁷ The concepts of "cradle-to-cradle" product cycles and "technical nutrients" were proposed by Michael Braungart and William McDonough in 1995. See <http://www.greenblue.org/about.html> (cited 18 March 2006)

are borne by the public, EPR drives both the costs and the benefits of recycling back onto the brand-owner, where they become drivers of waste prevention. GRRN explains:

Shifting the costs of waste from taxpayers to brand owners and producers creates a powerful economic incentive to design waste out of the system and substantially reduce the use of toxic materials.

Transitioning to Zero Waste

Over the course of a hundred years local governments developed expertise in managing large flows of commingled wastes. Long-established institutional, commercial and regulatory arrangements – to say nothing of expensive infrastructure and ingrained public habits – presented powerful barriers to change. Despite this inertia, the Integrated Waste Management approach of the 1980s and 1990s affirmed the “recycling ethic” as the basis for public policy and led to the implementation of new recycling and composting programs that operated alongside waste disposal services.

The Zero Waste planning approach opens the door to the next step in adaptation by local governments. As EPR is implemented, and products as well as product marketing systems are redesigned to accommodate reuse and recycling, the role of local government in managing product wastes will necessarily diminish. Increasingly, products will not enter the “municipal” waste system, but instead will be returned through a system managed by producers as part of their marketing plan. Local governments need to anticipate that they will eventually get out of the business of handling product wastes altogether. The transition from municipally-managed programs to producer-managed programs must be supported with carefully planned policy instruments at the local level of government designed to instill the “EPR ethic” of producer responsibility.

Even as local governments are gradually relinquishing responsibility for product wastes, they must take on the new responsibility of convincing the public to recycle food wastes. This will mean overcoming daunting barriers of public perception, to say nothing of infrastructure design and development. Local governments must instill the “composting ethic” the same way they instilled the “recycling ethic” a generation ago. They will be called upon to develop food waste management programs that are convenient and effective in meeting the community’s needs.

It will require vigorous and sustained effort for local governments to adapt today’s waste management programs to support a Zero Waste planning approach. But as the level of government closest to the people, the one with hands-on experience in waste management – and the one with the most to gain from a Zero Waste planning approach – local governments are in the best position to facilitate the transition.

What can local governments do NOW?

Local governments can use their existing authorities to assist in the transition to Zero Waste and EPR. In the following pages are specific measures that local governments can take in each of the following roles:

1. **Service providers** for managing solid wastes
2. **Regulators** of waste practices
3. **Consumers** of goods and services
4. **Educators** about good waste practices
5. **Advocates** of improved public policy

1. *Local governments as* WASTE MANAGEMENT SERVICE PROVIDERS

In many communities waste services are provided by local governments, either directly or through contractors. In these circumstances, tax dollars or rate payments are directly subsidizing brand-owners of products designed to be thrown away. The community is delivering services that will eventually be delivered through EPR programs. Within a fully-evolved EPR framework, products will not enter the “municipal” waste system. Instead, they will be managed in a product take-back program provided by the brand-owner as part of the company’s “cradle-to-cradle” marketing plan. Therefore, today’s municipal recycling programs are not an end in themselves but a stop-gap and a bridge to EPR.

SET PRIORITIES:

- Focus public resources on developing infrastructure for managing source-separated organics, particularly food wastes. Provide “stop-gap” recycling programs only for products that are most suited to municipal infrastructure and that offer the greatest opportunity for waste diversion. Paper products, for instance, are easy to collect in conventional packer trucks and comprise over one-third⁸ of municipal waste generation. Explain to the public that producers should be urged to provide recycling for the other products.

MINIMIZE COMMINGLING:

- Keeping different materials separate not only preserves their intrinsic value, but also reinforces the idea that these are assets, not liabilities.

ENCOURAGE SPONSORSHIPS:

- In the City of Vancouver BC, newspapers are collected in heavy-duty reusable blue plastic bags sponsored by a local weekly newspaper. The municipal collection program is still a public subsidy to the newspaper publisher but the sponsorship reduces

⁸ In 2003 paper products represent 35% of total MSW generation and 73% of total product-related recycling. Out of 55.4 million tons of recovered product-related municipal wastes, 40 million tons were paper and paperboard materials.

municipal costs and, more importantly, reinforces the EPR concept that the publisher has responsibility for recycling newspapers.

ESTABLISH BRIDGING PARTNERSHIPS:

- During the transition to EPR, local governments can cooperate with producers to host return facilities for their products, as long as there is no cost to the taxpayer. Many local governments in the US and Canada have such partnerships with the Rechargeable Battery Recycling Corporation (RBRC).

Although voluntary EPR programs are historically less effective than legislated ones for a variety of reasons⁹, local governments can support the principle of producer responsibility by publicizing and/or hosting drop off locations and by banning the products from disposal and advocating for legislated EPR programs as described below.

DEVELOP FINANCING STRATEGIES FOR ZERO WASTE:

- There will be significant financial benefits from EPR and a Zero Waste approach in the long run. However in the short term many local governments have become dependent on the revenues from waste disposal. Disposal revenues are used to fund not only disposal facilities but also recycling programs and organics recovery programs. Advance planning will make the transition easier to a system based on user fees for all services provided. The Canadian Kootenay Boundary Regional District (RDKB) has developed tools for planning: *Financing the Zero Waste Vision* and its precursor *Regional Waste Handling in Support of a Zero Waste Goal* can be viewed at: www.rdkb.com/siteengine/activepage.asp?PageID+61

2. *Local governments as* REGULATORS OF WASTE PRACTICES

*Within environmental frameworks established by senior governments, local governments set the rules for how waste is managed in the community. Local governments have the authority to establish waste **disposal fees, surcharges, bans and restrictions** and also to require **source-separation** of recyclable materials. Local governments also have regulatory authority over **land use, business licensing and zoning**. They have **policing authority** to adopt and enforce bylaws that protect public safety and health. Local governments can use all of these existing authorities to facilitate the transition to EPR and a Zero Waste planning approach.*

ADOPT USER-PAY GARBAGE RATES, VARIABLE RATES AND CAN SETOUT LIMITS:

- Over 4,000 local governments in the US have instituted “Pay As You Throw” policies to create a direct economic incentive to recycle more and generate less waste. This should now be the standard for all local governments.
- Nanaimo Regional District in Canada reached a recycling rate of 40% in 1998 after progressive reductions in can limits to the current level of one can per week (with unlimited recycling). There were no long-term problems with illegal dumping.

⁹ Voluntary industry initiatives, including RBRC’s, typically lack performance targets or measures, as well as accountability for reaching them. A report on RBRC’s performance is currently being prepared by the Canadian federal government.

ADOPT LANDFILL BANS AND MANDATORY RECYCLING:

- A growing number of local governments are adopting by-laws and ordinances that prohibit disposal of recyclable products. These rules send a clear and reasonable signal to households and local businesses: if it can be recycled it does not belong in the trash.
- Starting in January 2006, the City of Seattle is enforcing a by-law requirement that all waste generators recycle. Residents will not receive pickup if their garbage contains more than 10% recyclable materials.

INTRODUCE LANDFILL SURCHARGES THAT PENALIZE FAILURE TO RECYCLE:

- To reinforce landfill bans, some local governments establish financial penalties for loads containing banned materials. The fines should be high enough to be an effective deterrent, so that compliance is high and local governments do not become dependent on this revenue stream. The RDKB charges a penalty of five times the normal disposal fee because their experience shows that a smaller penalty will not make it worthwhile for the generator to incur the cost and effort to separate the recyclable materials. Gate personnel are provided with digital cameras to document offenses. (Enforcing fines is more difficult at privately owned facilities.)
- Surcharges can also be applied to loads from haulers who do not comply with agreed upon zero waste standards, such as user-pay pricing, enforcing landfill bans, etc.

DON'T COMPETE WITH EPR PROGRAMS:

- Once an EPR recycling program is in place, local governments can back out of providing a duplicate service. A local by-law can automatically ban the use of the municipal waste system for any product covered by an EPR program. Deposit beverage containers, for example, should not be collected in a municipal recycling program: why provide a duplicate service at public expense?
- Local governments will need to ensure that their regulatory framework, staff procedures, and public communications programs are geared up for quick action to shut off the public waste system when products are covered by EPR.

REQUIRE LOCAL TAKE-BACK PROGRAMS:

- Some local governments may exercise their business licensing authority to require local businesses to take back products/packaging that they sell. Although these programs fall short of true EPR, because they put responsibility on the retailer rather than the brand-owner who designs the total marketing plan, they send a signal that the local government is looking to the industry for solutions.
- There are precedents for locally legislated EPR programs. Columbia MI required deposits on beverage containers for two decades (repealed April 2, 2002). The City of New York is considering legislation in 2006 that would require brand owners and first importers of a range of electronic products to demonstrate that they are part of a recovery system.

REQUIRE BUSINESSES TO PROVIDE LITTER CONTAINERS:

- Local governments might require local food take-out businesses to provide and maintain street litter cans and other programs to prevent littering of their customers' products and packaging. Compliance might be collective, through neighbourhood business associations or Chambers of Commerce.

ENCOURAGE “REVERSE RETAIL” IN RETAIL ZONING DISTRICTS:

- Local governments can use their municipal zoning authority to encourage EPR discard malls and discard boutiques in the same commercial zoning districts where similar products are sold. Under EPR, brand-owners will need to provide reverse-retail services that are as convenient and pleasant to use as regular retail. Local communities will enjoy economic as well as social benefits from “cradle-to-cradle” product marketing systems when new EPR-related businesses are added to the tax roll.
- It is important to enforce existing policing by-laws and ordinances to maintain community standards of cleanliness at discard malls and discard boutiques. Within EPR programs these businesses should be managing products, not wastes.

TRY A NEW APPROACH TO WASTE CHARACTERIZATION:

- Waste characterization studies traditionally gather information based on material type (glass, paper, metal, etc.). Local governments should also measure waste by product category (food & beverage, cosmetics, consumer electronics, etc.) This is necessary data for understanding the potential benefits of EPR, as well as setting priorities for EPR legislation.

3. *Local governments as* CONSUMERS OF PRODUCTS & PACKAGING

Local governments and public agencies are large-volume consumers of manufactured products and this makes them large-volume waste generators. Public agencies can use their clout in the marketplace to put pressure on their vendors and suppliers to provide “cradle-to-cradle” product stewardship. Citizens expect public agencies to lead by example in how they manage their operations and their purchasing

BE A “ZERO WASTE” OPERATION:

- Internal programs and policies should ensure product recycling procedures are in place and complied with in all departments

USE STAFF INCENTIVES:

- Implement bonuses for staff members who suggest new initiatives that reduce agency waste

ADOPT A “CRADLE-TO-CRADLE” PURCHASING POLICY:

- Local governments and agencies can use their clout in the marketplace to specify that the producer/vendor must take back obsolete products and recycle them responsibly

4. *Local governments as* WASTE MANAGEMENT EDUCATORS

During the 1990s, an energetic new cohort of local government recycling educators was hired. They fanned out into the community to instill the “recycling ethic.” They did a good job. Today, more people recycle than vote. Now it is time to move to the next stage. Local governments must refocus the recycling message, in particular about EPR and product recycling.

They must help residents understand the public cost of the current system for managing product wastes, the public benefits of EPR, and the crucial role of product brand-owners in providing effective solutions that will prevent waste and lead to the Conserver Society we all want. It will also be necessary to instill the “composting ethic” and help residents and local businesses support programs to divert food wastes from disposal.

PUBLICIZE THE COMMUNITY’S WASTE SUBSIDY:

- Based on waste characterization studies or national statistics, local governments can provide an annual report to elected officials and citizens documenting how much money local ratepayers and taxpayers contribute each year to manage brand-owners’ disposable products and packaging. Relate these figures to opportunity costs felt by other community programs. How many library books or school dictionaries could have been purchased with those funds, for instance?

REACH OUT TO THE PUBLIC AND EDUCATE THE NEXT GENERATION:

- Local government educators and their partners in the community must help the public understand that we cannot implement a Zero Waste planning approach without Extended Producer Responsibility. Just as with the Three Rs (Reduce, Reuse, Recycle) the schools are an important place to instill an understanding of EPR in the next generation. Teach young consumers to look to their favorite brand-owners for waste solutions, rather than to their local government.

INSTILL THE “EPR ETHIC”

- The “EPR ethic” takes the “recycling ethic” one step further. When producers and consumers take the lead on recycling and waste reduction, they will become the architects of the Conserver Society. See the APPENDIX at the end for some messages to instill the “EPR ethic.”

5. Local governments as WASTE REDUCTION ADVOCATES

Local governments have a responsibility to advocate on behalf of their constituents and call on responsible parties to take actions that are beyond municipal jurisdiction. This is particularly important in the shift to EPR, where policies are most effective at a state, national, or even international level. Local governments can make a strong case for the public benefits of EPR. They can advise on the most effective EPR policy approaches that reduce public costs, deliver better recycling through waste prevention, and protect public health through pollution prevention and toxics reduction. In addition, EPR creates opportunities for local economic development through “reverse retail” and product recycling services.

KNOW THE EPR POLICY BASICS:

- EPR is a new policy approach. Advocates for EPR need to understand the elements of good EPR policy to ensure that EPR programs will reduce public costs and accomplish the objective of stimulating improved product design and marketing. (See EPR Basics, next page)

ADOPT EPR RESOLUTIONS:

- Local elected officials can send a message to citizens and senior governments calling for effective policies to relieve local taxpayers from the burden of managing wastes they have no control over. Identify the specific product categories that have the greatest impact on your local programs. Call for mandatory recycled content, as well as “cradle-to-cradle” product take-back and recycling services. Insist that the programs be provided at no cost to taxpayers.

WRITE LETTERS:

- Producers of products need to know that local governments are no longer willing to provide management of their products as a free public service.

PARTICIPATE AS A STAKEHOLDER:

- Senior government agencies, the Conference of Mayors, National Association of Counties and others provide forums for local governments to explore the Zero Waste planning approach and call for legislative reform.

GARNER SUPPORT FROM CITIZENS:

- By publicizing the benefits of EPR and the Zero Waste planning approach, local governments can build strong public support needed for action by senior governments. Use the local media as a forum for discussion in the community.

APPENDIX 1

~ EPR BASICS ~

FIRST INTRODUCED: Europe (German “Packaging Ordinance,” 1991)

EXAMPLES IN NORTH AMERICA: the “bottle bill” is an early form of EPR because beverage producers “buy back” empty containers through retailers or bottle depots. More recently, states and provinces have required EPR programs for paint, pharmaceuticals, pesticides, oil, batteries, etc. Maine has an EPR program for TVs and computer monitors that relies on municipalities for product returns. Washington and Massachusetts will soon follow with laws that will look somewhat different.

HOW DO THEY WORK: In most existing programs brand-owners set up or join a “Producer Responsibility Organization” (PRO) that manages product take back and recycling. The PRO normally charges a consumer fee on new product sales to finance the system. This approach has been criticized because fees are paid by consumers rather than brand-owners and because the fees are the same across all brands, giving individual brand-owners little incentive to design products for recycling. Nevertheless, these early programs relieve local governments of cost and responsibility.

BEST PRACTICES: It takes a while for new approaches to iron out all the bugs. Here are the hallmarks of the most effective EPR programs:

- none of the cost is borne by the municipal taxpayer
- product take-back does not rely on municipal infrastructure
- responsibility is on the brand-owner (not the retailer or packager, who have no control over product design & marketing)
- the brand-owner designs the EPR program
- the state approves the brand-owner’s EPR program
- the state clearly defines the products to be included
- the state sets clear targets & performance measures and timelines for achieving them
- the state prohibits exports of waste to developing countries
- the state requires regular reporting of results

APPENDIX 2

Instilling the “EPR ethic”

During the 1990s, local governments developed educational programs to help their communities adopt the “recycling ethic.” What was missing was EPR. EPR allows a preventative approach to waste reduction and recycling. Many of the benefits of recycling can’t happen without EPR. By instilling the “EPR ethic” local governments can help foster a conserver society.

Recycling is a producer responsibility

All of us want to recycle – it’s the right thing to do. But products must be designed to be recycled and brand-owners should be providing opportunities for consumers to recycle as the extended warranty on their products.

It should be just as easy to recycle a product as it is to buy it in the first place. Recycling must be part of the producer’s marketing plan, the missing link in the product chain. Along with manufacture, distribution and retail, producers can make arrangements through their marketing plan for reverse-retail, reverse-distribution and recycling of their products. The cost of recycling should be built into the price of the product, just as other production and marketing costs are. Marketing is something that producers are good at, so they will figure out how to manage product recycling at the lowest possible cost to consumers, while adhering to worker safety and environmental standards set by government.

EPR ensures that wastes are “resources”

Many of today’s products are not designed to be recycled – in fact they are marketed as “disposable.” As a result recycling is uneconomic. Under a Zero Waste EPR planning approach, producers will not be allowed to send products to landfills and they will not want to lose money on recycling. They will work hard to ensure that their products are designed and recovered in a way that they remain valuable assets rather than costly liabilities when the consumer returns them.

EPR brings economic benefits to the community

When producers establish product return and recycling systems, this will create new jobs and business opportunities in many sectors of the economy. New local businesses will spring up to provide product return services (“reverse retail”) and to get returned products back to the industries that need them (“reverse distribution”). There will be new opportunities for businesses that can provide technical solutions: tracking product flows, designing and providing disassembly processes, developing new design concepts that prevent waste in the first place.

Once products are being returned through EPR services, local governments will be able to direct public investment and expenditures into areas where the market cannot and should

not operate. Financing can be directed to civic services like parks, libraries, schools and health care, to civic infrastructure like water, sewage and organics composting. Within the EPR framework, producers of *food products* will either provide or support local infrastructure for composting their food-related products, including leftover food and its associated packaging.

EPR brings environmental and social benefits

We no longer allow factories to dump pollution in the air or water – why should we allow brand-owners to dump products into municipal landfills? Local governments have instilled the “recycling ethic” as a public value, and so brand-owners must be held accountable to ensure that their products are reused and recycled rather than disposing of them in landfills and incinerators. Similarly, we no longer allow the export of wastes from rich countries to poor ones where worker safety and environmental standards are not enforced. EPR provides us an opportunity – and an obligation – to ensure that producers do not simply export their problem to other countries. Brand-owners will not want to risk their good name by failing to recycle responsibly. Consumers will expect producers to maintain a chain of custody over their products from cradle-to-cradle.