

# Part 2: A 40-Year History of Recycling in Ontario

## Abstract

For almost four decades, the Ontario government has tried to tame the province's waste. Part 2 looks at the history of waste management in Ontario, including the creation of the Blue Box and the introduction of the *Waste Diversion Act, 2002 (WDA)*. Part 2 also details the key elements of the *WDA*, as a basis of comparison with the new law, described in Part 4 of this report.

We've been trying to divert waste from landfill for 40 years.

**PART 2:  
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- 2.0 What is “Waste Diversion”? ..... 20**
  - 2.0.1 When Does Waste Need Diversion Regulation?..... 20
- 2.1 A Brief History of Waste Diversion in Ontario ..... 21**
  - 2.1.1 Why Diversion? ..... 21
  - 2.1.2 Voluntary Diversion: The BlueBox Program ..... 21
    - What Happened to “Reduce” and “Reuse”? ..... 22
  - 2.1.3 First Law: *Environmental Protection Act* ..... 22
  - 2.1.4 Second Law: *Waste Diversion Act, 2002* ..... 23
- 2.2 Key Elements of the *Waste Diversion Act, 2002 (WDA)* ..... 23**
  - 2.2.1 The *WDA* Shifted Some Responsibility to Steward Organizations ..... 23
  - 2.2.2 Diffused Direction and Oversight: The Minister and Waste Diversion Ontario ..... 24
  - 2.2.3 The *WDA* Increased Funding, Helped Grow the Blue Box.... 24
  - 2.2.4 The *WDA* Expanded the Number of Recycling Programs .... 25
    - Alternative Industry-Run Recycling Programs ..... 25
    - Beer and Alcohol Container Deposit-Return Programs .... 26

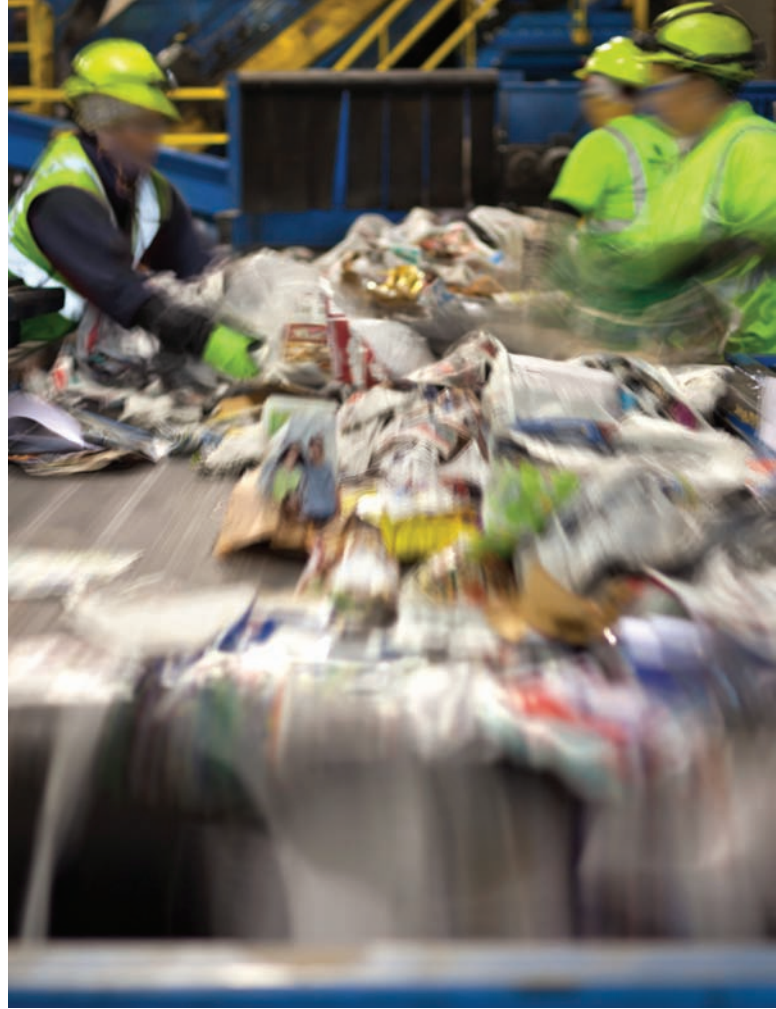


## 2.0 What is “Waste Diversion”?

Waste diversion has historically been the term used in Ontario for preventing waste from going to a landfill or incinerator. Recently, government has changed its language and replaced this term with “resource recovery” to emphasize the importance of not just diverting waste from landfill, but also reutilizing the materials. Whether called “waste diversion” or “resource recovery,” these efforts include what is often summarized as the “3Rs”:

- **Reduce** the generation of waste through reduced consumption.
- **Reuse** products that already exist.
- **Recycle** the remaining materials that cannot be reused.

There is sometimes a 4<sup>th</sup> “R”, for energy **Recovery** from incineration. The role of energy recovery in waste diversion has been contentious in Ontario (see Box “*What about the Fourth R, Recovery?*” in Part 4.2).



### 2.0.1 When Does Waste Need Diversion Regulation?

Resources are readily recovered and reused when good economics make waste diversion pay for itself. **When markets work well to keep materials in use, governments should be slow to meddle.** For end-of-life materials with reliable market value, government waste diversion regulations (including producer responsibility schemes) may do more harm than good.<sup>33</sup> Only when recycling is unprofitable is government regulation (such as mandating producer responsibility or banning materials from landfill) needed to keep wastes out of landfill.

For example, privately owned scrap yards compete to recycle metal items because of the robust markets for many metals. Similarly, consumers need no laws to keep old cars out of landfill, because they can easily find someone to pay for them. End-of-life vehicles like old cars are bought and sold, disassembled and processed in an elaborate system of for-profit private companies independent of the original vehicle manufacturers. They remove parts for refurbishment and resale, sell metal frames to steel mills, etc. and send to landfill only what they cannot sell.

On the other hand, waste diversion regulation is necessary to avoid disposal of potentially recyclable materials (like textiles, tires, mattresses, plastics, hazardous wastes, etc.) when the cost of recycling is higher than the revenue that it can generate. For such materials, imposing responsibility back on the original producer may be the best answer until a consistent profit can be made from recycling. Good government policy should ultimately work towards creating **a profitable market for all end-of-life materials** that we use (see Part 6.1.5).

*continued...*

Meanwhile, waste policy must be highly attentive to the specific economics of each individual waste; a working market may exist for one product and not for a closely related one. For example, consider batteries. Lead acid (car) batteries are the most completely recycled consumer product in North America, with an estimated recycling rate of over 95%.<sup>34</sup> This is not due to government regulation or to any waste diversion program. Rather, used lead acid batteries stay out of landfill because there is a reliable market for them. Lead smelters compete to purchase such batteries, to melt them down for use in new batteries. Other entrepreneurs compete to collect such batteries and to sell them to the smelters, making a profit along the way. Even if lead acid batteries end up at a landfill, landfill operators pick them out for resale.

The situation is entirely different for other classes of batteries, such as the small single-use batteries that power flashlights, toys and television remotes. Because of high processing costs and low yields, recycling these batteries costs money.<sup>35</sup> The consequence? Diversion rates for single-use batteries were about 5% up until 2009,<sup>36</sup> meaning that the toxic metals and acids in these batteries almost always went to landfill.

In these widely different economic circumstances, no “one size fits all” policy would work. Ontario’s waste oversight body (Waste Diversion Ontario) unwisely considered lumping all types of batteries together into a single waste diversion program that would have cannibalized the existing lead acid battery market and created an uneven playing field among the competing businesses, in order to subsidize single use battery collection. This proposal was rejected. Instead, two single-use battery diversion programs, one mandatory and one voluntary, have now pushed Ontario diversion rates for single use batteries up to 33%.<sup>37</sup>

## 2.1 A Brief History of Waste Diversion in Ontario

### 2.1.1 Why Diversion?

Ontario had a waste disposal capacity crisis in the late 20<sup>th</sup> century: more and more waste, with less and less landfill space. A growing quantity of waste, coupled with the difficulty of siting new landfills, created **an urgent need to divert materials from landfills**, even though waste diversion typically costs more than landfill.

### 2.1.2 Voluntary Diversion: The Blue Box Program

Throughout the 1970s and 1980s, the government tried, with little success, to curb the growth in disposable beverage containers, which were replacing refillable containers<sup>38</sup> (see *What Happened to “Reduce” and “Reuse”?*). Around this same time, Ontario’s flagship recycling program, the Blue Box, emerged as a voluntary initiative.<sup>39</sup> Gradually, more and more municipalities began to offer residential Blue Boxes as part of their waste collection, in order to save scarce landfill space. However, waste diversion was modest and funding was always a challenge.



## What Happened to “Reduce” and “Reuse”?

Historically, Ontario – like most other jurisdictions – has focussed heavily on the third and lowest priority R: recycling. Relatively little attention has been paid to the first two Rs (reducing the generation of waste in the first place and reusing used products and packaging).<sup>40</sup>

The reasons are illustrated by the Ministry of the Environment and Climate Change’s (MOECC’s) attempts to minimize carbonated beverage (soda pop) waste packaging. Decades ago, the beverage industry started switching from refillable glass bottles to “once-through” containers, such as cans and plastic bottles. Manufacturers, retailers and consumers preferred the new containers, which were lighter, unbreakable, cheaper to ship and easier to stack. Once-through containers also avoided the deposit-return system, and the messy process of storing, returning and cleaning empties.

There were, of course, consequences. Local bottlers were forced out of business, and consumers started discarding heaps of beverage containers as waste and litter, saddling municipalities with the costs of waste disposal and litter cleanup.

The MOECC made a brief, but ineffective, effort to preserve the market for refillable glass soda bottles. It adopted and tried to enforce a law that required reusable bottles and a law requiring equal advertising for soda in refillable bottles, but it could not stem the tide of the new disposable containers.

Eventually, the MOECC abandoned the fight. The ministry ultimately compromised by setting only minor limits to non-refillable containers (and stopped enforcing even those),<sup>41</sup> coupled with an agreement from the beverage industry to partially fund a municipal collection program for non-reusable beverage containers. The rest of the cost was left to municipalities and their taxpayers. This set the stage for the Blue Box program that provides curbside pickup of household printed paper and packaging, plastic and cans from most Ontario single family homes. It also set a **powerful precedent: Ontario would only make industry pay part of the cost** of end-of-life management of the wastes they cause consumers to create, and then only for residential waste. Municipalities would be left to pay the rest.

### 2.1.3 First Law: *Environmental Protection Act*

The *Environmental Protection Act (EPA)* is Ontario’s first and main law used to regulate waste management in the province,<sup>42</sup> and included some early waste diversion regulations. In 1994, Ontario adopted the ‘3Rs’ regulations under the *EPA*, which remain in force today:

- The first 3R regulation (O. Reg. 101/94) requires municipalities with a population over 5,000 to offer curbside residential collection of: most plastic, glass and aluminum bottles and other packaging (such as jars, tins and containers);

paper (such as newspaper); and cardboard. These materials are generally collectively referred to as “paper and packaging.”

- The other 3R regulations (O. Reg. 102/94, O.Reg. 103/94, and O. Reg. 104/94) require some large industrial, commercial and institutional facilities to: conduct waste and packaging related audits and prepare reduction workplans; separately collect some common recyclables; and make reasonable efforts to ensure that source separated wastes are reused or recycled.

The *EPA* has also been used to regulate a few other diversion programs (distinct from those created under the *Waste Diversion Act, 2002*), including the collection program for pharmaceuticals and sharps,<sup>43</sup> and the Beer Store bottle deposit program (see box, *Beer and Alcohol Container Deposit-Return Programs*).<sup>44</sup>

### 2.1.4 Second Law: *Waste Diversion Act, 2002*

Despite the 3Rs regulations, packaging and other waste kept increasing throughout the 1990s, **funding for the Blue Box program was a constant challenge, and diversion rates remained modest.** In the absence of a strong market for collected materials, more funding was needed to increase diversion. Therefore, in 2002, the province adopted a new law, the *Waste Diversion Act, 2002 (WDA)* to expand waste diversion programs in Ontario. The *WDA* was intended “to promote the reduction, reuse and recycling of waste and to provide for the development, implementation and operation of waste diversion programs.”<sup>45</sup> The *WDA* and its regulations required industry to fund 50% of the Blue Box program, and set diversion targets for the Blue Box (the original target was to achieve 50% diversion by 2006, later increased to 60% by 2008). The *WDA* eventually added three other provincially mandated, industry-funded recycling programs: municipal hazardous or special waste; used tires; and waste electrical and electronic equipment (see Part 2.2.4).

The *WDA* was repealed in November 2016, when the *Resource Recovery and Circular Economy Act, 2016 (RRCEA)* came into effect.

## 2.2 Key Elements of the *Waste Diversion Act, 2002*

### 2.2.1 The *WDA* Shifted Some Responsibility to Steward Organizations

The *WDA* was Ontario’s first legislative foray towards “extended producer responsibility” (EPR). The theory of EPR is to hold the manufacturers or importers of products responsible (financially and/or physically) for the end-of-use management (e.g., reuse, recycling and/or disposal) of their products and/or packaging, rather than either the individual who used the product or municipal governments.<sup>46</sup>

**A key feature of *WDA* diversion programs were Industry Funding Organizations (IFOs).** IFOs were statutory corporations representing and funded by all companies with a commercial connection to a designated waste, called “stewards.”<sup>b</sup> IFOs developed and operated most waste diversion programs, except for the Blue Box. The Blue Box program continued to be operated by municipalities, as required by O. Reg. 101/94, with partial funding from Stewardship Ontario (the IFO for the Blue Box). Each IFO collected data and set and collected fees from its stewards (e.g., the electronics IFO would collect fees from manufacturers and retailers like Sony, Dell and Best Buy) to cover some or all of the costs of diverting the designated product or packaging from the waste stream. The IFOs controlled the data they collected, and kept much of it confidential. This limited their accountability to stewards, to Waste Diversion Ontario (WDO), to municipalities and to the public.

The diversion programs could include: activities to reduce, reuse and recycle the designated waste; research and development related to recycling the designated waste; activities to develop and promote end markets for the resulting recycled materials; and educational and public awareness activities.

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<sup>b</sup> “Stewards” was the preferred term for responsible entities under the *WDA*. The Ontario government seems to have abandoned this term, instead favouring “producers” for responsible entities under the *RRCEA* (though it is largely the same entities affected under both laws). Accordingly, in this report, we use “stewards” when speaking in the context of *WDA* responsibilities, and otherwise use “producers.”





## 2.2.2 Diffused Direction and Oversight: The Minister and Waste Diversion Ontario

### Responsibility for the success of WDA diversion programs was diffuse.

WDO, a non-government corporation, had primary oversight duties under the WDA. WDO oversaw the development, implementation and operation of diversion programs, and reported to government on their effectiveness. For the first ten years, WDO was run by a board that represented industry, municipalities and other interested parties, but was dominated by stewards.<sup>47</sup> In 2012, the Minister of the Environment and Climate Change changed the WDO board to a “skills-based” board that he appointed.<sup>48</sup> WDO was funded by stewards through their IFOs.

The Minister provided broad-brush policy direction, but left most details to the WDO and the IFOs. The Minister: “designated” certain wastes by regulation (i.e., determined which wastes should be diverted); triggered the creation of diversion programs; and “requested” that certain components be included in diversion program plans (such as program targets, accessibility, and promotion and education). The Ministry had exclusive responsibility for enforcing compliance with the WDA, and could charge the cost back to the IFOs.

Each waste diversion program required formal approval from the WDO and from the Minister. But although the Minister had to approve each program plan, the Minister could only request, not compel, changes to an approved plan. Once approved, IFOs were responsible for running the programs, except for the Blue Box program, which continued to be delivered by municipalities, primarily at public expense.

## 2.2.3 The WDA Increased Funding, Helped Grow the Blue Box

The WDA and its regulations required industry to fund 50% of the Blue Box program. Increased funding helped Ontario’s Blue Box program capture a wide variety of materials (see Figure 2.1).

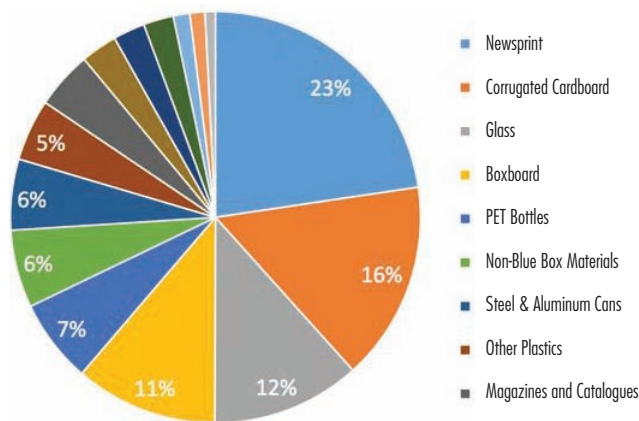


FIGURE 2.1. What’s in the Blue Box.  
Source: Continuous Improvement Fund, Co-Ordinated Waste Composition Studies Update.

Capture rates vary among the different Blue Box materials, and remain higher in single-family homes than in multi-unit residential buildings (see Figure 2.2).

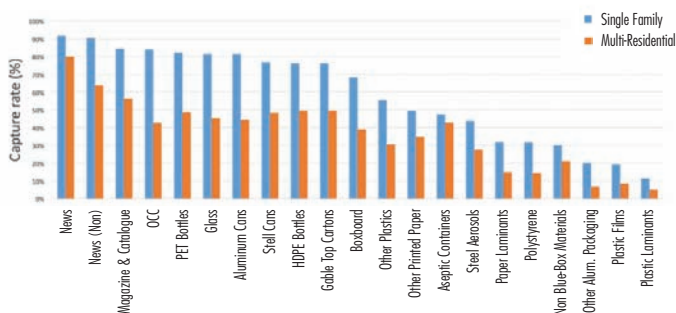


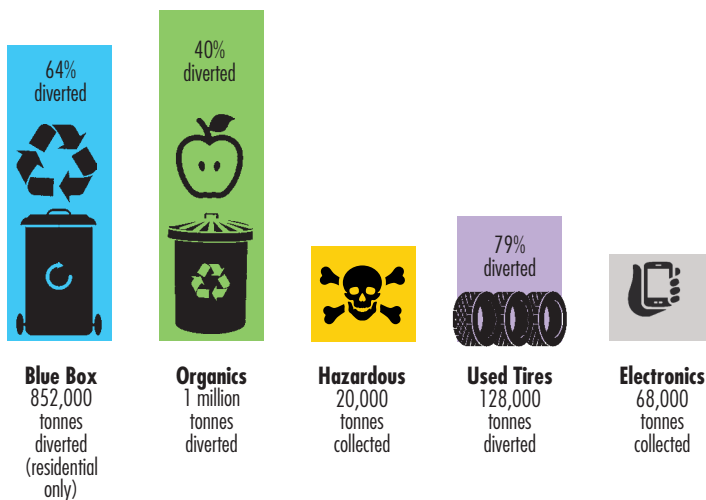
FIGURE 2.2. Capture rates for Blue Box materials, for single-family and multi-residential homes.  
Source: Continuous Improvement Fund.

## 2.2.4 The WDA Expanded the Number of Recycling Programs

In addition to the Blue Box, the government required WDO to set up three new recycling programs, each operated by an IFO:

- A **used tires program**, operated by Ontario Tire Stewardship;
- A **waste electrical and electronic equipment (WEEE) program**, operated by Ontario Electronic Stewardship; and
- A **municipal hazardous or special waste (MHSW) program**, operated by Stewardship Ontario (which collects single-use batteries and pressurized cylinders under the “Orange Drop” program);<sup>49</sup> other household hazardous wastes are operated through alternate diversion programs (see *Alternative Industry-Run Recycling Programs*).

All of the WDA programs have been successful at diverting additional wastes. The Blue Box program has remained Ontario’s best known and best loved program, and the most successful of its kind in Canada. The Blue Box has diverted an impressively large amount of material, only surpassed (by weight) in recent years by the growth in voluntary municipal programs for organic waste (see Part 3.1.3 for more on organic diversion).



## Alternative Industry-Run Recycling Programs

If a steward, or group of stewards, wanted to operate their own funding organization and diversion program – separate and apart from the designated IFO – they could apply to WDO to do so.

WDO approved diversion programs for eight categories of household hazardous wastes,<sup>50</sup> which provided alternate diversion programs to the Stewardship Ontario-run program, for:

- Used paints (operated by Product Care Association);
- Pesticides, solvents and fertilizers (operated by Product Care Association);
- SodaStream’s CO<sub>2</sub> cylinders (operated by SodaStream); and
- Antifreeze, empty oil containers and used oil filters (operated by Automotive Materials Stewardship).

In each of these cases, stewards believed it was to their advantage to operate their own program.<sup>51</sup>

FIGURE 2.3. Relative diversion rates of each WDA program, plus household organic (i.e., food and yard waste) as a comparator. Note: for the hazardous waste and electronics programs, because of the nature of these materials, collection rates are used in lieu of diversion rates. Source: Created by the ECO, using data from various sources.<sup>52</sup>







Photo of the 1990 Hagersville tire fire, which burned for 17 days, drove 4,000 people from their homes, and cost the province \$15-\$25 million.<sup>53</sup> (Photo credit: Ted Brellisford, The Hamilton Spectator.)

While diverted tire, electronics and household hazardous wastes weigh comparatively little, diverting these materials from landfill provides disproportionate environmental and health benefits. **The tire program, for example, cleaned up stockpiles of old tires around the province, which had posed a significant fire and environmental risk,** as illustrated by the 1990 Hagersville tire fire.

Similarly, electronic and hazardous waste contain toxic chemicals that can contaminate landfill leachate, or, in the case of hazardous materials flushed down drains or poured down sewers, can contaminate water sources. A 2009 study found that waste diversion programs operating in Ontario in 2007 provided an annual benefit of nearly \$1 billion in avoided environmental and health costs (e.g., the impacts associated with carcinogens, toxics, ocean acidification and climate change).<sup>54</sup>

## Beer and Alcohol Container Deposit-Return Programs

Two of Ontario's most successful waste diversion programs, with remarkable recovery rates of 88% (beer containers) and 78% (liquor containers), are producer-responsibility programs that operate outside the *WDA*. The Beer Store's deposit-return program, which is industry-operated and funded, diverted 268,000 tonnes of packaging (mostly glass bottles and metal cans) from landfill in 2016, about 70% of which were refillable bottles (the remainder are recycled).<sup>55</sup> The Ontario Deposit Return Program for wine, cooler and spirit containers, which is paid for by the Liquor Control Board of Ontario (LCBO) and operated by the Beer Store, diverted over 111,000 tonnes of packaging from landfill in 2016.<sup>56</sup>

These deposit-return systems provide a sufficient financial incentive to many consumers to return their own containers; other containers are collected and returned for profit by private-sector entrepreneurs. Many of the remaining containers end up in municipal Blue Boxes – about 37% of the glass in Blue Boxes is deposit-return material.<sup>57</sup>



