


# Part 5: Beyond Diversion: Looking Forward to the Circular Economy

## Abstract

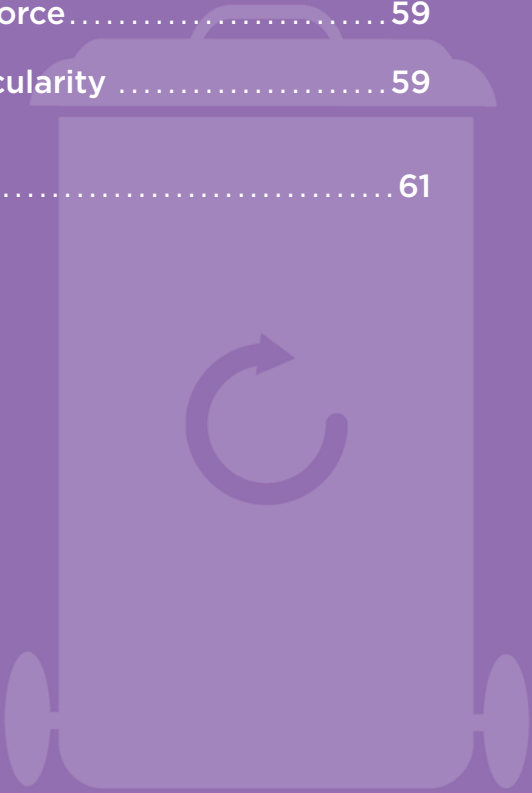
Part 5 takes a closer look at Ontario's broader goal of creating a circular economy. We consider the key ingredients in such an economy and review the actions identified in the Strategy to help move towards a waste-free future.



In a circular economy, we reuse resources, instead of waste them.

**PART 5:  
BEYOND DIVERSION: LOOKING FORWARD TO THE CIRCULAR ECONOMY**

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## 5.0 Ontario's New Vision for a Waste Free Ontario

As discussed in Part 2, the Ontario government has historically paid little attention to the first two Rs: reduce and reuse. Until the introduction of the *RRCEA* and the Strategy, government had not really tried to tackle the root causes of most waste.

Ontario's new vision is that "waste is seen as a resource that can be recovered, reused and reintegrated to achieve a circular economy."<sup>120</sup> The two goals are: (1) zero waste in the province; and (2) zero greenhouse gas emissions from the waste sector. While strong requirements for extended producer responsibility are a necessary part of these goals, they alone will not make Ontario (or any jurisdiction) waste-free. Such a bold vision requires a global effort to fundamentally restructure basic social and economic practices that encourage consumption and waste over durability and reuse.

An effective circular economy would generate no waste because all the materials in every product are recovered and reused repeatedly at the end of the product's life. In contrast, Ontario's current economy is predominately linear – resources are extracted, products made and used, and then discarded as waste (see Figure 5.1).



FIGURE 5.1. Linear Economy versus the Circular Economy. Source: Sustainable Brands.

### 5.0.1 Focus on Climate: How the Circular Economy Helps Fight Climate Change

Developing a circular economy benefits the environment in the form of reduced demand for virgin resources and landfill space. It also has positive implications for global greenhouse gas emissions. The Strategy's goals of both zero waste, and zero emissions from waste, acknowledges the clear opportunity to take meaningful climate action through resource recovery and waste management decisions. Not only is reducing emissions an explicit goal of the Strategy, but moving Ontario towards a circular economy is a key action in Ontario's 2016 Climate Change Action Plan.

As a result, many initiatives will serve both Ontario's waste and climate goals. The most obvious example of this are the plans to address organic waste (see Part 4.2). But potentially more significant are the greenhouse gas reductions that may be achieved by transitioning to a circular economy. **Reusing and recycling materials almost always uses less energy than extracting, using, and discarding virgin resources** (recall the example of copper in *Life Cycle of a Cell Phone*, in Part 1.1.2, which requires about 80% less energy to recycle than to mine and refine the same amount of virgin material). Considering these broader, system-wide implications, it becomes clear that a circular economy will likely play a vital role in achieving both provincial and global greenhouse gas reduction goals.

A circular economy is more than just the sum of innumerable isolated waste diversion efforts. Rather, a circular economy is an entire system in which environmental and economic goals are aligned. In a circular economy, reducing and reusing materials is not only environmentally responsible (see Focus on Climate box, Part 5.0.1), but also economically savvy.<sup>121</sup> Shifting to a circular economy can provide substantial gains in employment and economic

growth as value-added services (e.g., recycling, composting and repair work) replace traditional waste disposal. A 2014 Canadian study stated that increasing waste diversion in Ontario from 23% to 60% would support an additional 12,700 jobs and add as much as \$1.5 billion to Ontario's GDP.<sup>122</sup> In this way, the "closed loop" of endlessly repurposed goods decouples prosperity and comfort from the need to extract virgin resources from the environment.

## The Circular Economy in Action: Mitigating the Impact of "Fast Fashion"

Textiles are often cited as the next frontier for effective, widespread reuse and recycling initiatives. The rise of "fast fashion" (inexpensive, trendy clothing that is not meant to last long) has led to a massive increase in the amount of textile waste.<sup>123</sup> In Ontario, 85% of most textile waste ends up in landfills.<sup>124</sup> Some customers and retailers have started to think about the impacts of all this waste, and the opportunities to close the loop. And now that new technologies are making it possible to 'upcycle' textiles as never before, recycling could soon pay for itself.<sup>125</sup>

Some big name clothing manufacturers are already working on closed loop production strategies, such as certain lines from H&M, Speedo and Adidas.<sup>126</sup> H&M – a company that has taken considerable criticism for driving the fast fashion trend – has also introduced recycling bins in its stores with the goal of fully reusing all of the materials it receives.

Beyond these private sector efforts, some municipalities are testing textiles recycling programs,<sup>127</sup> and Ontario has identified textiles as a high-priority candidate material for future diversion programs.

## 5.1 How Do You Build a Circular Economy?

Although circular systems for some individual materials exist or are being developed (see box, *A Second Life for Blue Box Plastics*), there is no single or simple path to a circular economy.

A number of countries around the world, such as Scotland, Finland and the Netherlands, are taking action to move towards a circular economy. China has an ambitious vision of moving its enormous

economy to this model, so as to "maintain rapid economic growth over the coming decades while simultaneously improving environmental quality..."<sup>128</sup> For Ontario to do the same, **businesses and consumers alike must rethink product development, manufacturing, distribution and use.** Recognizing resources where we once saw waste will require collaboration and coordination among a large group of stakeholders.



## The Circular Economy in Action: A Second Life for Blue Box Plastics

One example of an Ontario company seeking to “close the loop” on plastic waste is Canada Fibers and its affiliate Urban Resource Group. Together, Canada Fibers/Urban Resource Group processes more than half of all Blue Box materials in Ontario, as well as recyclables from the IC&I sector – altogether, it handles over 1 million tonnes of material a year.

But the process does not end at the sorting centre; once the recyclable plastic has been sorted at Canada Fibers’ state-of-the-art Toronto complex, it is then transferred next door to Urban Polymers. There, it is further sorted, ground, and washed by plastic type and colour, and then melted down to create small pellets that are then sold to manufacturers in packaging, construction and home

improvement as a raw material used in the production of new products.

The manufacturing of recycled plastic is considerably less energy intensive than producing plastic from petrochemicals and does not require extraction of raw resources from the earth. Urban Polymers estimates that use of its recycled plastic products saves nearly 77,000 tonnes of greenhouse gases from being released into the atmosphere. This diversion is equivalent to off-setting the electricity use of over 11,000 homes for one year in Ontario.

Canada Fibers/Urban Resource Group provides similar circular solutions for cardboard and wood materials. They credit their success to their philosophy, stating “where others see waste, we see an opportunity to create local, sustainable products.”

The Ellen MacArthur Foundation, a U.K. charity dedicated to “accelerating the transition to the circular economy,” has articulated the “building blocks of a circular economy.”<sup>129</sup> They are:

- 1) Businesses need to build their expertise in circular design so that they are technically able to design better products and systems;
- 2) Businesses need to embrace new business models that do not rely on the current linear take-make-dispose model of production;
- 3) Employees need to build new skills and knowledge relating to designing compostable and reusable products, and managing the logistics of a circular resource system; and
- 4) Market mechanisms must align to support circularity.

Essentially, transitioning to a circular economy requires that: the workforce and businesses have the skills and knowledge necessary to deliver circularly designed products; businesses throughout the entire supply chain must rethink their entire approach from a systems perspective; and economic policies and programs must incent supportive activities and discourage disposability and disposal.

The government of Ontario can play an important role in each of these areas.

## 5.2 Ontario's Plan for a Circular Economy

The *Strategy for a Waste Free Ontario* identifies four objectives, each with associated actions, to move the province towards its zero-waste goal and a circular economy. The four objectives are:

- 1) Enhance provincial direction and oversight;
- 2) Enable efficient and effective recovery systems;
- 3) Increase waste reduction and resource productivity; and
- 4) Create conditions to support sustainable end-markets.

### 5.2.1 Fostering Circular Businesses

With respect to the first two components of a circular economy identified by the Ellen MacArthur Foundation – fostering businesses with expertise in circular design that embrace circular models of production – the Strategy identifies several potential initiatives for Ontario. For example, the Strategy states that policy statements could be used to “establish criteria and principles to facilitate sustainable packaging” and “guide reusing and recycling methods.”<sup>130</sup>

The Strategy also states that “Ontario will also use a variety of tools and take actions to incent businesses to show leadership and demonstrate efforts to increase resource productivity by reducing the use of raw materials and avoiding waste to maximize the recovery of materials at their end-of-life.”<sup>131</sup> Moreover, the Strategy commits the province to work “towards reducing [regulatory] barriers to adopting new innovative technologies.”<sup>132</sup>

Green procurement policies are one specific way that government can help foster circular businesses. Procurement policies that direct government to favour products that incorporate recovered materials when making purchasing decisions provide a financial incentive to businesses wishing to win government contracts. The Strategy commits the government to reviewing its existing procurement

policies to ensure that they “send the right signals to shift the market toward greater recovery and reintegration of resources into new products and services.”<sup>133</sup>

Ontario also supports the Circular Economy Innovation Lab – a not-for-profit initiative to “bring together public and private sector leaders and innovators to co-generate, test and implement circular economy solutions.”<sup>134</sup> Although the Strategy includes many actions that will affect businesses and likely require them to adopt more circular practices (something discussed in greater detail below), it does not reference the innovation lab, nor commit to any other policies, programs or actions aimed directly at fostering innovative circular business expertise on a broad scale.

### 5.2.2 Training a Knowledgeable Workforce

Although the government of Ontario is heavily involved in economic development and workforce training, such training is not currently focused on a circular economy. The province could better align its existing economic development efforts with the goals of the Strategy. For example, the provincial government could introduce policies and programs to support training relevant to the circular economy for both businesses and workers. Similarly, Ontario could also introduce policies that encourage businesses to improve the environmental performance of their products and provide incentives to businesses that adopt circular economic practices.

### 5.2.3 A Marketplace that Supports Circularity

#### What Kinds of Policies Support a Circular Marketplace?

The final component – aligning market mechanisms to support circularity – is undoubtedly the most difficult element of this transformation, but also the most essential. A true circular economy must have reliable, sustainable markets for all recovered resources. The Strategy acknowledges that the circular economy largely depends on making the 3Rs more financially attractive than sending materials to landfill or incineration.



Establishing a supportive marketplace will be a very tall order. Ontario relies on national and international markets to supply many raw materials, goods and waste. Competitiveness concerns and national and international trade laws affect the market, and, moreover, few product and packaging decisions are made in Ontario. A circular economy may be especially hard to achieve for the complex, light-weight plastics and plastic composites that continue to grow in popularity.

Making producers truly responsible for the full costs of end-of-life management of both packaging and products forces them to internalize the environmental costs that have been historically borne by the community as a whole. This responsibility should incent producers to create more environmentally friendly products and more effective recycling programs. But it is not enough on its own. Other policies that can help create markets that encourage circularity include:

- full-cost individual producer responsibility obligations that allow differentiation of products based on their environmental properties;
- banning disposal (landfilling, incineration and export) of certain materials;
- landfill surcharges;
- setting and enforcing recycling targets;
- mandatory recycled content requirements for some items;
- green procurement policies for government; and/or
- financial incentives for products and businesses that promote circularity (such as a lower tax rate on second hand goods, or on the cost of repairing items).

### **What Policies does the Strategy Identify to Support Circularity?**

Many of the actions contemplated in the Strategy are aimed at addressing market failures that currently make it costlier to employ circular processes than to simply send waste to disposal.

Specifically, many of the actions are aimed at requiring more comprehensive participation of producers to divert waste or aimed at ensuring basic standards are met by both producers and waste industry participants. These include many of the actions discussed in Part 4 that aim to ensure that more materials are being diverted by more sectors (such as IC&I sectors), and to ensure that basic producer responsibility, recyclability and customer service standards are met. Imposing these diversion obligations on all producers of designated materials, as well as across all sectors will negate the financial incentive for wastefulness that may otherwise exist. Furthermore, imposing standards on producers and service providers will help create a level playing field by ensuring that no one can financially gain by delivering sub-par products or services.

Other actions reach beyond comprehensive producer responsibility to focus on stimulating markets for recovered materials. In addition to green procurement practices that help build market demand for recovered materials (already discussed above), disposal bans are also contemplated in the Strategy as a potentially powerful tool to direct materials to end-markets.

Disposal bans prohibit the disposal of certain items regardless of the comparative costs of disposal versus recycling. This can provide a significant incentive to companies to redesign products so they do not contain materials that are subject to bans, or to make them easier to recycle or repair. The Strategy identifies the following materials as among the likely candidates for a disposal ban, emphasizing that any ban would be phased in over time: organic waste, beverage containers, and fluorescent bulbs and tubes. In most cases, it is necessary to apply the ban at the transfer station (rather than at the location of the landfill or incinerator), so as to ensure that the materials are not simply exported to landfills outside of Ontario.<sup>135</sup>

## The Circular Economy in Action: Emphasising the first 2Rs

Building a circular economy will require much more emphasis on the first 2Rs - reducing and reusing materials - and only resort to the third R (recycling) where necessary. One way of reducing material consumption in the first place is through the growth of businesses that provide members with access to occasional-use items so that individuals don't have to buy them outright (therefore reducing the total number of items that must be produced to meet demand). Car-sharing services such as Zipcar and Car2Go are one example, another is the proliferation of tool libraries that loan out specialised equipment. When it comes to reuse, organizations that strive to help teach people how to repair items themselves are playing an important role. Repair Cafés, operating out of community centres, libraries and other community locations in a number of Ontario cities, have volunteers help people fix everything from small appliances to clothing and books. Similar organizations offer specialised help, such as Toronto's Bike Pirates, a volunteer-run organization that teaches bike repair and offers space for repair work (and also reuses donated bikes and bike parts).

