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## **Memorandum**

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**From:** Geoff Love, Love Environment  
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SLR Consulting

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**Company:** Oxford County

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**cc:** **Date:** August 4, 2017

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**Subject:** **ASSESSMENT OF WASTE REDUCTION AND RECOVERY TECHNOLOGIES  
TECHNICAL MEMORANDUM 4 : RELATIONSHIP OF EXTENDED PRODUCER  
RESPONSIBILITY AND RESOURCE RECOVERY TO OXFORD COUNTY  
CURRENT AND FUTURE WASTE STREAM**

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### **1.0 INTRODUCTION**

Oxford County operates a very successful municipal solid waste management program having achieved a ranking of 6<sup>th</sup> out of 230 Ontario municipalities for diverting residential waste from landfill, as well as a ranking of 1<sup>st</sup> in diversion for municipalities within its grouping<sup>1</sup>. The County has also embarked on an ambitious program to achieve two significant long term Sustainability goals, being 1) achievement of 100% renewable energy by 2050<sup>2</sup>, in accordance with the County's June 2015 resolution; and, 2) achievement of Zero Waste, as articulated in the September 2016 draft Zero Waste Plan<sup>3</sup>. Oxford County's renewable energy commitment provides a mechanism for linking the two goals outlined above and recognizes that residual waste can form a useful feedstock for generating energy from waste. As part of its program toward achieving Zero Waste and other related goals, OC has undertaken this **Assessment of Waste Recovery and Reduction Technologies** (the Project). The Project is being undertaken amidst the development of recent climate change and waste management legislation (and related policies, strategies, and emerging programs), intended to dramatically reduce waste generation and disposal, and intended to drive the 'Circular Economy'.

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<sup>1</sup> Full Report County of Oxford Waste Management Strategy, Oxford County, August 2014.

<sup>2</sup> Draft 100% Renewable Energy Plan, Oxford County, June 22 2016.

<sup>3</sup> Draft Zero Waste Plan, Oxford County, September 22, 2106.

The County has retained the consulting team of SLR Consulting (Canada) Ltd., in association with Love Environment to assist them in carrying out the Project, which will consist of five main tasks described in following **Sections 1.1** through **1.5**.

### **1.1 Task 1: Assessment of Existing Waste Recovery Technologies**

Task 1 is a comprehensive review of existing approaches to the reduction of residual waste, leading to identification of technologies that are relevant to Oxford County. This will be undertaken in three stages:

- Stage 1: Setting the Scene: This is an analysis of the current waste management situation in Oxford County aimed at characterising the County's waste management situation in terms of scale, current approach, types of waste, barriers and opportunities.
- Stage 2: Technology Options (Inclusive List). Stage 2 is identification of a long list of technology suppliers under each material type and technology class. This long list would subsequently be screened against a set of criteria which would be agreed with the County.
- Stage 3: In-depth Evaluation. Stage 3 is a more in-depth analysis of the individual technologies using the County's Multi Criteria Analysis Tool (MCA).

### **1.2 Task 2: Case Studies of Implemented Technologies**

Task 2 will result in the documentation of case studies of technologies implemented in other jurisdictions, as well as highlighting of those technologies which have been successfully implemented and which have highest likelihood of successful implementation in Oxford County.

### **1.3 Task 3: Review of New and Emerging Technologies**

This task will be the documentation of new and emerging technologies as identified in Task 1, as supplemented by gathering of additional data as required and prepare meaningful commentary.

### **1.4 Task 4: Relationship of EPR and Resource Recovery with Current Waste Stream**

Task 4 will examine and assess the impacts of recent climate change and waste management legislation, namely:

- Bill 151 – the *Waste Free Ontario Act* which includes both *Resource Recovery and Circular Economy Act* and the *Waste Diversion Transition Act*;
- The *Strategy for a Waste Free Ontario* (through which topics like the future of organics, disposal bans, new material designations and ICI diversion are prominent); and,
- The *Ontario Climate Change Action Plan* (and its potential impact on municipal waste operations).

This legislation will be examined in the context of several key questions, including the County's role in the delivery of waste management services in areas where producer responsibility is significantly changing, and the County's role in ensuring that expanded EPR programs that are implemented are well integrated with the overall waste management system.

### **1.5 Task 5: Economic Potential of Full Resource Recovery**

This task will seek to identify the net economic benefits of implementing the preferred technology solutions identified in Task 1, considering the outline Capex and Opex costs of technologies, and accounting for the value within recovered materials, the potential sale of power and/or heat from certain categories of technology, and avoided costs of landfilling and long-term management of impacts.

### **1.6 Study Documentation**

Documentation generated during this study will be presented in technical memoranda covering each task. Following review and agreement by the County, the technical memos will be combined into a final report with an overarching introduction and conclusion section.

## **2.0 DOCUMENT OBJECTIVES AND ORGANIZATION**

This document is **Technical Memorandum 4 (TM4)** that summarizes the Task 4 description of the potential impacts of extended producer responsibility and resource recovery legislation, regulations and provincial government actions on Oxford County's current (and future) waste stream (and thus on the county's goal of achieving zero waste). TM4 is presented in four sections:

- The key elements and implications of the new Waste-Free Ontario Act (2016);
- The key elements and implications of the February 2017 "Strategy for a Waste-Free Ontario: Building the Circular Economy";
- The waste-related elements and implications of Ontario's Climate Change Strategy; and
- The challenges, opportunities and implications of new waste management and climate change legislation, pending regulations and other provincial government actions on Oxford County's goal of achieving zero waste.

## **3.0 WASTE-FREE ONTARIO ACT, 2016**

### **3.1 Background to the Waste-Free Ontario Act (Bill 151)**

On June 1, 2016, the Ontario Legislature passed Bill 151, the Waste-Free Ontario Act, 2016 (WFOA). The WFOA replaced the Waste Diversion Act, 2002 (WDA) with a new producer responsibility framework that makes producers individually responsible and accountable for their products and packaging at end of life. Under this regime, producers also become directly accountable for recovering resources and reducing waste as required by regulation. This

section of TM4 describes the new Act, some of the important differences between WFOA and the WDA and the implications of these changes on a zero waste future for Ontario and for Oxford County.

There are two Schedules to the WFOA:

- Schedule 1 – The Resource Recovery and Circular Economy Act, 2016 (RRCEA) that sets out the new producer responsibility framework; and
- Schedule 2 – The Waste Diversion Transition Act, 2016 that sets out the operation of existing waste diversion programs (including their wind up).

On November 30, 2016 sections of the WFOA were proclaimed including the continuation of the former Waste Diversion Ontario (WDO - that was established under the WDA) as RPRA – the Resource Productivity and Recovery Authority. RPRA is the new not for profit, non-Crown organization that is now responsible for registration, oversight, compliance and – perhaps most important of all – enforcement under the new producer responsibility regime.

The introduction of “circular economy”<sup>4</sup> thinking within the *Waste Free Ontario Act* is a key distinguishing feature of this legislation for Canada. One of the most important components of the new Act is the declaration of 17 specific “provincial interests” (Part 1 of the Act) that serve as the main framework for policies to be developed by the Ministry of Environment and Climate Change (MOECC). Part 1 of the Act states that it is in the provincial interest that Ontario have a system of resource recovery and waste reduction that aims to:

- a) Protect the natural environment and human health;
- b) Foster the continued growth and development of the circular economy;
- c) Minimize greenhouse gas emissions resulting from resource recovery activities and waste reduction activities;
- d) Minimize the generation of waste, including waste from products and packaging;
- e) Increase the durability, reusability and recyclability of products and packaging;
- f) Hold persons who are most responsible for the design of products and packaging responsible for the products and packaging at end of life;
- g) Decrease hazardous and toxic substances in products and packaging;
- h) Minimize the need for waste disposal;
- i) Minimize the environmental impacts that result from resource recovery activities and waste reduction activities, including from waste disposal;
- j) Provide efficient, effective, convenient and reliable services related to resource recovery and waste reduction, including waste management services;
- k) Increase the reuse and recycling of waste across all sectors of the economy;
- l) Increase opportunities and markets for recovered resources;

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<sup>4</sup> A circular economy is defined (by the UK based Ellen MacArthur Foundation) as “restorative and regenerative by design and aims to keep products, components and materials at their highest utility and value at all times”.

- m) Promote public education and awareness with respect to resource recovery and waste reduction;
- n) Promote cooperation and coordination among various persons and entities involved in resource recovery activities and waste reduction activities;
- o) Promote competition in the provision of resource recovery services and waste reduction services;
- p) Foster fairness for consumers; and
- q) Do any other related thing that may be prescribed.

Many of these interests are very consistent with circular economy (and zero waste) thinking including: “minimize greenhouse gas emissions; increase the durability, reusability and recyclability of products and packaging; minimize the need for waste disposal; increase the reuse and recycling of waste across all sectors of the economy; and to hold persons who are most responsible for the design of products and packaging responsible for the products and packaging at the end of life”. The central importance of circular economy thinking to the new waste management legislation in Ontario is most clearly evident in the companion “Strategy for a Waste-Free Ontario” that is discussed in more detail in **Section 4**.

### **3.2 Key Elements for Municipalities of the Resource Recovery and Circular Economy Act and the Waste Diversion Transition Act**

Several specific elements of the two Acts will have a direct impact on the roles of producers and municipalities regarding the management of Ontario’s waste stream in the future:

- MOECC has broad discretion under the Act to create policy that supports the specific provincial interests enumerated in the Act. In fact, RRCEA overrides – in some cases – obligations under other Acts. Municipalities could be required – for example – to amend official plans, zoning by-laws and other bylaws to be consistent with the policy statements contained within RRCEA.
- Under RRCEA, the Minister develops regulations, sets performance outcomes and operating standards. The Minister oversees the new Authority (the Resource Productivity and Recovery Authority – RPPRA) and recently appointed 5 members of the initial Board. This Board now has 12 months to select an additional 6 members (and that process is underway).
- Under WDTA, the Minister directs the wind up of existing diversion programs and industry funding organizations. On February 17, 2017 the Minister issued notice of the wind-up of the Used Tires programs and OTS - Ontario Tire Stewardship. The tire wind up plan is due October 31 this year with the implementation of the wind up plan to begin on the date the Authority approves the plan (anticipated March 31, 2018). The current Used Tires program will cease operations on December 31, 2018. This is the first operating diversion program scheduled to be wound up (and therefore likely to be replaced under the new regime). Consequently, these steps should help clarify key issues related to future targets, operating standards, definitions of brand holders and

performance measures that will apply not only for tires but for the full range of materials targeted for future diversion measures.

- The new WFOA is essentially silent regarding any on-going role (i.e. beyond the transition period as laid out in the companion Transition Act) for municipalities in waste diversion program delivery.
- Unlike its most recent predecessor (Bill 91 that died on the order paper in the fall of 2014), the RRCEA makes no provisions for producers' responsibilities to municipalities; nor does the Act provide any authority to RPRA - the new oversight agency - related to municipalities.
- A key function of the new Authority is the development and operation of a Registry in which regulated parties (e.g. brand holders/producers) will be required to register and report information as specified by the Minister of the Environment and Climate Change through regulations (such as sales of regulated products and packaging and recovery performance). RRCEA provides the Authority with enforcement powers that WDO did not have, and therefore provides the Authority with more "teeth".
- The Authority has no policy-making function. That role now lies solely and explicitly with the province. While the Authority still oversees the existing waste diversion programs during the transition period, it is no longer responsible for jointly operating these programs (another significant difference from the WDA/WDO regime).
- Finally, the new Act fundamentally changes how extended producer responsibility programs are delivered in the Province. Under the previous WDA, each regulation stipulated one IFO (industry funding organization) with which municipalities could deal with to be paid for waste diversion services delivered. Under the new legislation, individual "brand holders" are ultimately liable for meeting their waste diversion obligations. RRCEA makes no attempt to regulate the relationships between brand holders and producer responsibility organizations that may be contracted to discharge brand holders' obligations; brand holders are free to form relationships and enter into agreements without any interference from the new Authority or the province. True to the concept of "full EPR", brand holders retain ultimate responsibility for fulfilling their environmental obligations. For all Ontario municipalities, this means a more complex landscape for any future partnerships where they want payment from brand holders for service delivery (i.e. depending on how brand owners are required to register by RPRA, it is unlikely that municipalities will receive payment for services rendered – as they have in the past – from a single industry funding organization).

#### **4.0 THE STRATEGY FOR A WASTE-FREE ONTARIO: BUILDING THE CIRCULAR ECONOMY**

Under RRCEA, the Minister is also responsible for developing a strategy for a waste-free Ontario – i.e. how to build a system that puts valuable materials destined for landfill back into the economy. On February 28, 2017, the Minister released the final Strategy for a Waste-Free Ontario, after several months of active consultation. The Strategy serves as a roadmap to shift Ontario towards a circular economy and zero waste in the future, including:

- Setting a vision and goals;
- Articulating actions to support the vision and goals; and
- Identifying performance measures to measure progress towards achieving the vision and goals.

#### 4.1 The Vision – What is a Circular Economy?

As stated in the introduction to the Strategy, “In the traditional waste management system, materials move through a linear “make-use-dispose” process where they are manufactured from raw resources, consumed and ultimately sent to landfill. This model of consumption has become part of our culture. It has resulted in a 19% increase in absolute greenhouse gas emissions between 1990 and 2014 as the amount of waste disposed has increased. A circular economy aims to eliminate waste, not just from recycling processes, but also throughout the lifecycles of products and packaging. A circular economy aims to maximize value and eliminate waste by improving the design of materials, products and business models<sup>5</sup>”.

A **Circular Economy** is described in the *Resource Recovery and Circular Economy Act* as an economy in which participants strive to:

1. Minimize the use of raw materials;
2. Maximize the useful life of materials and other resources through resource recovery; and
3. Minimize waste generated at the end-of-life of products and packaging.

Within the Act, **Resource Recovery** means the extraction of useful materials or other resources from things that might otherwise be waste, including through reuse, recycling reintegration, and regeneration or other activities.

The Strategy for a Waste-Free Ontario presents three compelling reasons for the move towards a circular economy for the province of Ontario. A circular economy: protects the environment, helps Ontario stay competitive and it drives innovation. Two notable sets of statistics are presented in the Strategy to support this direction:

- On the environmental protection front: “Data tells us that increasing Ontario’s organic waste diversion rate by about 10% (from about 38 percent to 48 percent) would avoid an additional 275,000 tonnes of greenhouse gas emissions – the equivalent of removing almost 64,000 cars from Ontario roads each year”.
- And on the competitiveness/innovation front: “This shift will help save taxpayers money, create jobs and increase GDP...According to Statistics Canada, local government expenditures for waste management in Canada increased from \$1.8 billion in 2004 to

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<sup>5</sup> The Strategy for a Waste-Free Ontario: Building the Circular Economy. February, 2017. Page 4.

\$3.2 billion in 2012. Studies have also shown that Ontario's existing waste diversion programs can create up to 10 times more jobs than disposal<sup>6</sup>.

In a recently released report from the Ontario-based circular economy lab ("powered by the Natural Step Canada"), the key elements and benefits of a move towards a circular economy for Ontario were described as follows:

"The Circular economy is an approach to maximize value and eliminate waste by improving (and in some cases transforming) how goods and services are designed, manufactured and used. It touches on everything from material selection to business strategy to the configuration of regulatory frameworks, incentives and markets".

The circular economy lab report reframes the "take-make-waste" approach of conventional economic approaches and contrasts that approach with systems, cycles and markets that "make-use-return" or "take-make-take-make-take-make". Similar to the language contained in the Act itself, the circular economy lab report states:

"The overarching goal of the circular economy is to generate the highest utility and value from materials and products over their entire lifecycle. Achieving this goal requires that all stakeholders in the economy strive to:

- Eliminate the concept of waste and the disposal of products and materials,
- Minimize the use of finite, non-renewable resources except in closed-loop cycles,
- Optimize the use of renewable resources at levels that can be sustained by natural systems, and
- Align market and policy incentives in support of these goals<sup>7</sup>.

Perhaps the most prophetic description of the long term importance and potential of Ontario moving towards a circular economy is the quote from Accenture Strategies' report "Waste to Wealth" that states:

"Transitioning to the circular economy may be the biggest revolution and opportunity for how we organize production and consumption in our global economy in 250 years<sup>8</sup>".

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<sup>6</sup> "Strategy for A Waste-Free Ontario: Building the Circular Economy". Ministry of Environment and Climate Change. Page 6, 2017. Web. 11 May 2017.

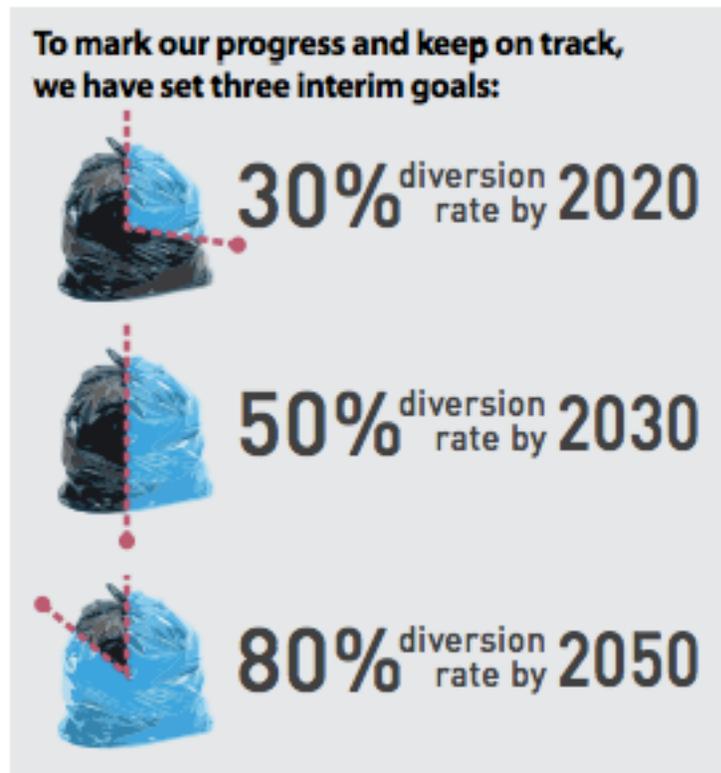
<sup>7</sup> "Circular Economy Lab". Circulareconomylab.com. 2017. Web. 11 May 2017.

<sup>8</sup> Emterra Newsletter: "Circular Economy Lab focuses on 'Take-Make-Return' innovation in printed paper and packaging. 2017.

## 4.2 Objectives and Actions Designed to Achieve Ontario's Vision

To mark progress and to “keep on track”, the “Strategy for a Waste-Free Ontario” sets forth three interim goals as shown in **Figure 4-1** below<sup>9</sup>:

Figure 4-1



The government's two primary goals of the Strategy for a Waste-Free Ontario are to achieve zero waste and to achieve zero greenhouse gas emissions from the waste sector.

As noted in the project's TM1a, "...the County has already significantly exceeded the 2030 level of diversion recently proposed by the Ontario Ministry of Environment and Climate Change (MOECC)" as "The 2015 Waste Diversion Year End report indicates that diversion has increased steadily to around 59% in 2015" (up from 54.1% in 2010). As also noted in that Memorandum, "Oxford County operates a very successful municipal solid waste management program having achieved a ranking of 6<sup>th</sup> out of 230 municipalities for diverting residential waste from landfill, as well as ranking 1<sup>st</sup> in diversion for municipalities within its grouping" (P.5 and P.1 TM1a).

<sup>9</sup> "Strategy for A Waste-Free Ontario: Building the Circular Economy". Ministry of Environment and Climate Change. Page 10, 2017. Web. 11 May 2017.

The main contents of the “Strategy for a Waste-Free Ontario” is a reasonably detailed description of the four main objectives and fifteen specific actions contained in the Strategy to help achieve Ontario’s vision. The four objectives and fifteen actions are presented below as **Table 4-1**, and key target dates for the next seven years are presented in **Table 4-2**. A summary timeline (i.e. actions “already underway”, “short term” and “long term” timeframe) is presented on pages 12-13 of the “Strategy” report and are attached as **Appendix A** to this memorandum.

**Table 4-1 Objectives and Actions in the Strategy for a Waste Free Ontario**

	<b>Objective</b>	<b>Action Item(s)</b>
<b>Objective 1</b>	Enhance Provincial Direction and Oversight	<p>#1 – Empower the Resource Productivity and Recovery Authority</p> <p>#2 - Issue policy statements to provide clear direction on the provincial interest</p> <p>#3 – Establish a registry and build data capacity to provide for evidence-based decisions</p>
<b>Objective 2</b>	Enable Efficient and Effective Recovery Systems	<p>#4 - Transition existing waste diversion programs to new producer responsibility framework without disruption of services</p> <p>#5 - Amend the 3 Rs Regulations to increase resource recovery across all sectors</p> <p>#6 - Establish service provider requirements to protect the environment while promoting resource recovery</p> <p>#7- Ensure landfills are well planned and managed to minimize their need and reduce greenhouse gas emissions</p> <p>#8 - Establish promotion and education requirements to support public participation in resource recovery</p>
<b>Objective 3</b>	Increase Waste Reduction and Resource Productivity	<p>#9 - Designate new materials to ensure producers are fully responsible for recovering more materials from products and packaging</p> <p>#10 - Implement an action plan to reduce volume of</p>

	<b>Objective</b>	<b>Action Item(s)</b>
		<p>food and organic wastes going to landfill</p> <p>#11 - Implement an Excess Soil Management Policy Framework to increase the reuse of excess soil, while protecting human health and the environment</p> <p>#12 - Adopt and implement modern regulatory approaches to build on and promote innovative best practices</p>
<b>Objective 4</b>	Create Conditions to Support Sustainable End-Markets	<p>#13 - Improve and establish environmental standards</p> <p>#14 - Use green procurement practices to build market demand for recovered materials</p> <p>#15 – Implement disposal bans to direct material to end markets</p>

**Table 4-2 Milestones to 2023<sup>10</sup>**

<b>2016</b>	In 2016, we will <b>empower the Resource Productivity and Recovery Authority.</b>
<b>2017</b>	In 2017, we started the transition of existing programs, including the <b>Used Tires Program</b> . We also plan to develop and consult on a <b>Food and Organic Waste Action Plan</b> ; develop and consult on the first policy statement; and establish the Resource Productivity and Recovery <b>Registry</b>
<b>2018</b>	In 2018, we plan to begin <b>implementing the Food and Organic Waste Action Plan</b> ; begin <b>implementing the first policy statement</b> ; begin <b>designating new materials</b> under the producer responsibility regulations (e.g. batteries, fluorescent bulbs and tubes, additional WEEE materials); and develop and consult on <b>disposal bans</b> (food waste, materials under existing diversion programs); and develop and consult on <b>amendments to the 3Rs regulations.</b>
<b>2019</b>	In 2019 we plan to begin <b>implementing the amended 3Rs regulations.</b>
<b>2020</b>	In 2020, we set an interim goal of diversion of 30%. We also plan to <b>complete transition of existing waste diversion programs (except blue box)</b> ; and designate

<sup>10</sup> Note – the **BOLDING** in this table is by the author of this tech memo, not MOECC.

	additional materials under producer responsibility regulations (e.g. <b>mattresses, carpets, furniture</b> )
<b>2021</b>	In 2021, we plan to begin <b>implementing disposal bans</b> on materials under existing waste diversion programs.
<b>2022</b>	In 2022, we plan to release the <b>first progress report on the Waste-Free Ontario Strategy</b> and implement a <b>possible food waste disposal ban</b> .
<b>2023</b>	In 2023, we plan to <b>complete transition of the Blue Box program</b> ; and continue to <b>designate additional materials</b> under the producer responsibility regulations.

The sections that are bolded above in the milestone summary are considered to be the priority waste diversion new activities in the province over the course of the next 6 years (i.e. to 2023). While all of these actions are very important for Oxford County (and for municipalities across the province), municipalities are seen to have limited impact or influence on some of these measures - e.g. empowering the RPR Authority and establishing its Registry as well as implementing the first policy statement and the first progress report on the Strategy that is to be issued in 5 year's time.

The next section of this memorandum therefor focuses on five specific action areas that are seen to have a mid to high impact on the County and its waste management system and operations (some positive, other possibly in a negative way). The key measures (that will be a focus of much of the remainder of this memorandum) are in the order as presented in the Strategy's objectives, actions and timelines:

- Transitioning existing waste diversion programs to new producer responsibility framework;
- Amend the 3 Rs regulations to increase resource recovery across all sectors;
- Food and organics waste action plan;
- Designating new materials under the producer responsibility regulations; and
- Disposal bans.

#### **4.3 Key Actions to meet Ontario's Waste-Free Goal and Strategy**

##### **4.3.1 Transitioning existing waste diversion programs (Strategy Action Item #4)**

As noted earlier, tires have been selected by the Minister as the first material for which the existing diversion program and IFO (Industry Funding Organization – Ontario Tire Stewardship in this case) - are to be wound up. The wind-up plan is due October 31 of this year, with implementation to begin March 31, 2018; the wind-up is to be completed by December 31, 2018. Although tires are not a "key" material for most municipalities (including Oxford County), tracking the tire wind up process is still important as it is expected to reflect MOECC's planning and decisions related to other designated materials that are of more direct interest to the County.

Municipalities are seen by the province to be important partners on the implementation of both Acts and on the next steps in the evolution of extended producer responsibility in Ontario. Some of the critical “detail” issues to be addressed in each of the existing diversion program (and IFO) wind ups and transitions include: target setting, accessibility levels, the “seamlessness” of the transition for each material/consumers, measuring performance, transparency of reporting and defining service standard expectations.

There are four main issues that Ontario municipalities need to attend to with regard to existing waste diversion program transitions:

*i) Transition timing* – Beyond tires, the Strategy anticipates the transition of the other existing waste diversion programs (other than blue box) to be completed by 2020 (i.e. within 4 years). Blue box transition is not expected until 2023 (6 years away). Given the fact that most Ontario municipalities assert that Stewardship Ontario is NOT covering anywhere near their 50% share of net system costs, this delay warrants attention. Certainly, the Association of Ontario Municipalities (AMO) has indicated that it is too long to wait. The Act allows the Minister to increase blue box stewards’ percentage contribution to the overall net system cost during a transition period. It is not in the interest of most municipalities to wait for over 6 years to address this cost concern.

*ii) Scope of materials to be included in revised waste diversion programs under the new EPR regime* – The idea of a common (and expanded) set of province-wide blue box materials has been under discussion for some time. Some printed (and unprinted) papers are currently not included in Ontario blue box programs. Packaging-like products (e.g. flower pots and trays, coffee and other cups, plates, take-out cutlery, etc.) could also be included. The new EPR program in British Columbia has a much expanded and common list of materials collected province-wide. Multi-Material British Columbia (the printed paper and packaging stewardship program operator in BC) is also piloting blue box material recovery from business improvement areas and public spaces as well. MOECC recently awarded two contracts to examine the expansion of both waste electrical and electronic materials and municipal household special waste. All municipalities have a vested interest in expanding the scope of materials that can be diverted from landfill.

*iii) Future role of municipalities in waste diversion service delivery* – Again as noted earlier, both Acts are silent on the issue of the future role of municipalities in the collection, processing and marketing of “stewarded” materials. If the approach in BC is to be a model, producers in that province have effectively removed any municipal role in blue box material processing, marketing and public education. Some BC municipalities have continued to collect and/or manage blue box/bin collection contracts, but even that role has been declining. A key issue for Oxford County (and for all Ontario municipalities for that matter) is what direct service role they want to play in future “stewarded” waste diversion program delivery.

*iv) Designating new materials* – Like the issue of expanding the scope of materials under existing diversion programs, municipalities have a direct interest in new materials that might be included for diversion from landfill in the future. A long list of examples include: the “Phase 2” list

of materials identified by the Canadian Council of Ministers of the Environment (i.e. construction and demolition materials, furniture, carpets, clothing and other textiles and other appliances - e.g. including electrical tools), mattresses, batteries, and fluorescent tubes and bulbs. All of these materials merit consideration for diversion under Ontario's new EPR regime.

#### **4.3.2 Amend the 3 Rs regulations to increase resource recovery across all sectors (Strategy Action Item # 5)**

Oxford County's zero waste plan includes a plan to not export waste out of the county (which is currently being done as the County effectively has little control over the flow of ICI waste, especially as compared to its control over residential waste). While Industrial Commercial and Institutional (ICI) waste diversion is an important part of the County's overall plan, it needs to be acknowledged that it is very difficult – both practically and legislatively - for a municipality to control ICI waste flows. Under current regulations, commercial waste haulers collect ICI waste from local businesses, industries, multi-family dwellings and institutions such as hospitals and schools and transport that waste for recycling and/or disposal wherever they choose.

Ontario's current 3 Rs regulations under the Environmental Protection Act have never been actively enforced. Several ICI waste reduction actions are to be considered by the province. One important step that is expected to be taken through RPRA's Registry is improved reporting and measurement of current ICI generation and diversion. Much work needs to be done to dramatically improve ICI waste diversion in Ontario. In addition to the issues of better enforcement and measurement, some of the other important ICI diversion issues include: the breadth and variety of materials to be covered by regulations, the scope of the regulated sectors, size thresholds for facilities and dwellings, ICI promotion and education roles and responsibilities.

There are essentially three ways a municipality can exert some control over the movement of ICI waste:

- 1) *Landfill pricing* – having the lowest cost disposal rates will increase ICI waste traffic to a specific landfill. At that point, a municipality could impose bans or other restrictions on the materials it receives. But at some point, this becomes a zero sum game – i.e. prices may be lowered to attract ICI customers, but customers will start to go elsewhere as the list of ICI materials that can be disposed at the landfill is restricted as the waste management system shifts towards zero waste.
- 2) *Flow control* – occasionally (more commonly in the US) flow control is used to force haulers to transport waste to a specific designated site, usually a waste-to-energy facility that requires a minimum waste flow to cover the cost of construction and operations. Flow control measures have been subject to court challenges throughout the US and have rarely been successful in Canada. The province of British Columbia repealed an attempt by Vancouver in 2014 to implement a flow control by-law. Halifax implemented flow control in 2002; it was overturned in 2004 but re-instated in 2007. In both cases, flow control was used/attempted to ensure a steady revenue

flow to the municipality. It is hard to imagine a local flow control scheme as a key component of a municipality's zero waste plan.

- 3) *Incentives, resources and encouragement to small and medium sized businesses* – it is anticipated (to be borne out through the AET comprehensive audit study) that the majority of large ICI operators in Oxford County already divert a good portion of their recoverable waste (mainly for cost and resource efficiency reasons). Some municipalities have successfully engaged with local businesses – through mechanisms like providing waste audit services, employee education programs and positive recognition programs – to help raise awareness of the benefits of waste reduction and thus help to divert more recyclable materials (and, in some cases, organic waste as well) from landfill.

For Oxford County, the main ICI waste issues to be addressed going forward are:

- How to exert some degree of control over ICI waste flow;
- How to encourage greater diversion from multi-residential buildings (for both recyclables and organics) and
- How to engage with small and medium sized businesses to implement greater at source waste reduction measures.

(Please see Section 6 regarding specific ideas and recommendations in this and other areas).

### **4.3.3 Designate new materials (Strategy Action Item #9)**

The importance of designating new materials was noted in section 4.3.1 as an example of a timely and important waste diversion transition issue for the County. There is a clear opportunity for Ontario municipalities to work together to press for short-term action from the province to designate new materials for diversion from landfill. If Ontario is to become a leader once again in waste diversion nationally, it is time to show leadership regarding new producer responsibility regimes (and other diversion measures) for new materials. It is worth considering which materials might be targeted as priorities and why.

In a 2014 report to CCME by Giroux Consulting Inc. entitled “the State of Waste Management in Canada”, the report recommended (at that time) that:

“Since industry readiness is a key factor in establishing producer responsibility programs, the next candidates for developing EPR programs in the **CAP Phase 2** category should be **1) appliances; 2) CRD; 3) carpets and 4) mattresses**...In the case of CRD (construction renovation and demolition), *Individual Producer Responsibility* is preferred over collective approaches to EPR due to the diverse industry characteristics of the sector and the uniqueness of the product mix...The **CAP Phase 2** materials categories that are **not ready** to progress with EPR due to a lack of data, lack of engagement with industry, and lack of recycling technologies are **textiles** (clothing,

footwear, car seats, linens, etc.) and **furniture**<sup>11</sup>. (*note - bold and italics are as per the report*).

The case of appliances EPR is already well established and operating successfully in BC. EPR for carpets has been piloted in California and EPR for mattresses has been piloted in Connecticut. The city of Markham, Ontario recently determined through waste audits that textiles had become a large component of their remaining waste going to landfill and have responded by developing a highly successful, citywide textiles drop off program (as of March 2017, textiles are banned from landfill in Markham). So all three of these materials – now three years after that report – are well positioned for EPR expansion. Mattresses, carpets and furniture are all cited as examples in Ontario’s Strategy (in 2020) to “designate additional materials under producer responsibility regulations”.

The most problematic material in this list is CRD. As noted in the “State of Waste Management” report, this is a diverse industry with very unique product mixes. Experience in BC (in “Zero Waste” cities like Metro Vancouver and Nanaimo) has shown that banning green waste/food waste, clean wood, gypsum and inert material including soil, sod, gravel, concrete and asphalt (exceeding .5 cu meters per load) from landfill appears to be an effective and more manageable approach to diverting these kinds of materials (rather than attempting to establish a complicated IPR program). The introduction of statutory construction waste management plans can also assist significant diversion improvement.

Whichever approach is taken (i.e. EPR, bans from landfill or construction waste management plans), MOECC needs to be prompted and supported by municipalities to begin designating new materials for diversion from landfill in an expeditious manner.

#### **4.3.4 Food and organics waste action plan (Strategy Action Item #10)**

Food and organic waste planning and management is likely to be the County’s single most important waste management priority now and over the next 5 years. It is worth repeating that the two primary goals that led to passing Bill 151 are to achieve zero waste and zero greenhouse gas emissions from waste. Roughly speaking, the single largest percentage of “post recycling” residential waste (about 40%) is compostable organics. The waste sector in Ontario is responsible for 6% of total greenhouse gas emissions (GHG), primarily through methane emissions from landfills.

The Strategy for a Waste-Free Ontario states that in 2017 “we also plan to develop and consult on a Food and Organic Waste Action Plan” and “develop and consult on the first policy statement”. The province has established a multi-stakeholder Organics and Food Waste Working Group to help steer the development of this Plan. AMO has a seat at that table and municipalities are being encouraged to participate in AMO briefings and meetings to keep

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<sup>11</sup> Giroux, Laurie. "State Of Waste Management In Canada". *Canadian Council of Ministers of Environment*. Page E3-E4, 2014. Web. 11 May 2017.

abreast of developments in this (and other) waste diversion areas and developments. The Strategy indicates that the first policy statement from the province (due this year) will deal with food and organic waste (partly because of the direct link to GHG emission reductions). It is worth noting that in developing a policy statement, the Minister must consult “in a manner that he considers appropriate” with a variety of stakeholders, including municipalities.

Three organics/food waste issues stand out as immediate and critical concerns for Ontario municipalities:

- 1) The province is focused on ensuring that sufficient organics processing capacity is available (this has been a barrier to some green bin program expansion in the past). The province is interested in opportunities for processing organics to generate renewable natural gas. Some of the immediate issues to be addressed as the Food and Organics Action Plan gets developed this year include:
  - Permitting a variety of technologies to achieve the provincial goal - i.e. composting, anaerobic digestion and mixed waste processing are all “on the table”;
  - It is expected that the full food supply chain will become engaged in food waste reduction – i.e. from field to plate. This is an area where several Ontario municipalities (York Region was an early leader by helping to create the Ontario Food Collaborative) have become early adopters of targeted public education and outreach to reduce food waste at source; and
  - There is some discussion of the designation of “branded organic materials” for producer responsibility (e.g. items such as diapers, paper towels and napkins, facial tissue, and compostable products like coffee pods, cutlery, cups and plates). (Please see Section 6 of this memo for further discussion of the “branded organics” issue).
- 2) The province has set 2022 as the target date to “implement a possible food waste disposal ban” (this is a year after plans to implement disposal bans on materials under existing waste diversion programs). A number of sources close to this issue anticipate that an out-right ban on food waste disposal is quite likely.
- 3) The “Action Plan on Food and Organic Waste” is (so far) silent on whether a food waste ban means mandatory organics collection (about 70% of Ontario households currently have separate green bin collection). Smaller, rural and northern municipalities (for whom mandatory weekly food waste collection is not seen to be a viable, sustainable option) could build a working link with AMO to seek flexibility in how to best address food and other organics diversion in smaller municipalities. Exemptions also might be considered based on the size of landfill and current GHG recovery efforts.

Another option might be to attempt to secure a delay in the date when bans take effect for different sized municipalities. An option purportedly being considered (short of enforcing an out-right ban) is to have landfill owners collect additional fees for contaminated loads (e.g. contaminated with >5% food waste). Whatever is decided in the end by the province, Ontario

municipalities (especially smaller municipalities) would be well served by ensuring – through a combination of food waste reduction measures, widespread back yard composting, attention to organics diversion for multi-family households and adequate landfill gas recovery - to demonstrate best efforts at organics diversion efforts - i.e. short of a dedicated green bin collection program.

#### **4.3.5 Disposal bans (Strategy Action Item #15)**

Disposal bans across an entire jurisdiction (be it metro areas like Vancouver and Halifax or provinces like PEI and Nova Scotia) are currently only in place for a small segment of Canadian households; but they are increasing in both number and impact. As noted in the Giroux report referenced earlier: “Landfill bans should target the materials where recycling technologies already exist and industry has demonstrated readiness for establishing a diversion program<sup>12</sup>”. The other two key factors to be added to this list are:

- The availability of stable markets to receive and consume the diverted material (this has been a problem for compost in many markets); and
- The resources to enforce bans that are established.

Like designating new materials to be put under a new EPR regime, landfill bans are one of the useful tools – properly applied – that can help divert waste from landfill. Consequently landfill bans should also be of interest for Oxford County as part of its long-term zero waste plan.

## **5.0 ONTARIO’S CLIMATE CHANGE ACTION PLAN AND WASTE DIVERSION**

In November 2015, Ontario released a Climate Change Strategy to set the long-term vision for meeting greenhouse gas pollution targets. On May 18, 2016 the Ontario legislature passed the *Climate Change Mitigation and Low-carbon Economy Act*. Like the Waste-Free Ontario Act, the “Climate Change” Act requires that the Minister develop a Climate Change Action Plan. This section of TM4 examines the province’s Climate Change Action Plan and the related cap and trade system that is now operational and summarizes the potential impacts of these two measures (and the sections of the Waste-Free Ontario Strategy focused on GHG reductions) on Ontario’s target of zero GHG emissions from the waste sector.

### **5.1 Ontario’s Climate Change Action Plan**

Ontario’s Climate Change Action Plan is a 5-year plan intended to help fight climate change over the long term. The plan set GHG reduction targets (compared against 1990 emissions) of:

- 6% by 2014 (already achieved – mainly as a result of closing down coal fired generating stations);
- 15% by 2020 (the Action Plan has a long term focus but many of the measures – e.g. introducing the cap and trade system – are intended to help reach this next target);

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<sup>12</sup> Giroux, Laurie. "State Of Waste Management In Canada". *Canadian Council of Ministers of Environment*. Page E4, 2014. Web. 11 May 2017.

- 37% by 2030; and
- 80% by 2050.

The plan sets out eight main actions to “combat climate change” (waste diversion being a small component of action #8):

1. Establish a green bank (reported to be capitalized at over \$3.5 Billion) to help homeowners and businesses access and finance energy-efficient technologies to reduce greenhouse gas emissions from buildings;
2. Create a cleaner transportation system (e.g. reducing GHG emissions from cars – transport, industry and buildings represent almost 80% of emissions);
3. Halting the rise in building-related emissions – e.g. by making new buildings more energy efficient;
4. Encourage homeowners and businesses to install or retrofit clean energy systems;
5. Support a carbon market that drives the lowest cost GHG emission reductions (i.e. through cap and trade proceeds);
6. Work in partnership with First Nations and Metis communities to address climate change;
7. Lead by example and act on opportunities to make government operations carbon neutral; and
8. Ensure that natural, agricultural and forested lands are used in a way that...enhances the removal and storage of carbon...while working with Ontario’s waste sector to leverage different practices and technologies to capture greenhouse gas pollution that would otherwise be released into the air.<sup>13</sup>

With regard to waste specifically, the Climate Change Action Plan notes that together the legislation and strategy is intended to:

- Boost recycling in the industrial, commercial and institutional sector, which would reduce waste and lower greenhouse gas pollution; and
- Reduce the amount of organic materials going to landfills, which would reduce emissions. Potential targets are 40% organics diversion by 2025 and 60% by 2035 (*note to readers - need to cross check against AET study to tell us what percentage of organics - i.e. food and leaf and yard waste – in Oxford County is currently diverting against this 40% goal.*) *\*When does this comment get removed/edited?*

The Waste-Free Ontario Strategy reports that the waste sector is responsible for 6% of total greenhouse gas emissions in Ontario. The Strategy notes that Ontario already has mandatory landfill gas controls set in regulation to capture methane from all new or operating landfills larger than 1.5 million cubic metres and that 31 landfills in Ontario currently have systems in place to capture landfill gas (and expected to reduce total greenhouse gas emissions by 1.8 megatonnes

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<sup>13</sup> Office of the Premier. Ontario Releases New Climate Change Action Plan. 2016. Print.

by 2020). Linking back to the Climate Change Action Plan, the Waste-Free Ontario Strategy notes that:

Ontario's Climate Change Action plan will also consider offset credits for projects that effectively reduce greenhouse gas levels in the environment, including protocol development for landfill gas capture<sup>14</sup>.

Unlike the WFOA where much is unknown on implementation details because regulations under that Act have not yet been issued, the Climate Change Mitigation and Low-Carbon Economy Act has had two regulations released since the Act's passage: the Quantification, Reporting and Verification of Greenhouse Gas Emission Regulation (O.Reg. 143/16) and the Cap and Trade Program Regulation (O.Reg. 144/16) that was released on July 1, 2016. For the purposes of Oxford County's interests, the Cap and Trade program is of more immediate interest.

## 5.2 Ontario's Cap and Trade System

As noted above, the *Climate Change Mitigation and Low-carbon Economy Act* required the Minister release a Climate Change Action Plan; but the legislation also requires that the province specify how cap and trade proceeds will be used to reduce or support the reduction of greenhouse gas by investing in green projects. The legislation requires that:

Each year Ontario will invest in a suite of initiatives to reduce greenhouse gas pollution, investments will be offset with cap and trade auction proceeds. Any spending will need to be authorized under the Climate Change Mitigation and Low-carbon Economy Act and will be subject to approval by the legislature<sup>15</sup>.

The Climate Change Action Plan clearly articulates why Ontario has proceeded with a cap and trade approach (as opposed - for example - to a carbon tax regime):

Cap and trade allows the market – not government – to set the carbon price. The market ensures that the price meets the needs of business covered by the program. The cap also ensures greenhouse gas reduction: this is what makes it different and more certain than other carbon pricing mechanisms<sup>16</sup>.

The "cap" essentially puts a limit on how many tonnes of GHGs businesses, institutions and households can emit. The cap is set at a specific amount, which is decreased by 4% each year

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<sup>14</sup> "Strategy for A Waste-Free Ontario: Building the Circular Economy". Ministry of Environment and Climate Change. Page 25, 2017. Web. 11 May 2017.

<sup>15</sup> "Ontario's Five Year Climate Change Action Plan". Ministry of Environment and Climate Change. Page 12, 2016. Web. 11 May 2017.

<sup>16</sup> "Ontario's Five Year Climate Change Action Plan". Ministry of Environment and Climate Change. Page 13, 2016. Web. 11 May 2017.

to encourage lower emissions. Companies must have enough allowances (or credits) to cover their emissions if they exceed the cap. To comply, companies can generally invest in clean technologies to reduce emissions and/or purchase credits.

The current Ontario program covers emitters of 25,000 tonnes or more of carbon dioxide equivalent annually. Facilities that emit 10,000 or more tonnes are – for the time being - required simply to report their emissions. The province intends to link its program with California and Quebec under the Western Climate Initiative in January 2018.

The first cap and trade auction in Ontario was held in April 2017 and all of the 2017 permits were sold at a price of \$18.08/tonne. The province's largest energy distributors and industrial consumers participated in the auction (including, for example, Suncor Energy, Imperial Oil, Enbridge and Union Gas). Under the plan, energy suppliers must purchase allowances covering all the fuel and natural gas they sell in the province; industrial emitters get free allowances up to their caps but must purchase permits from the market if they exceed their GHG limits.

The initial auction raised \$472 million; additional auctions will be offered quarterly over the next 4 years. It has been estimated that this process will generate a total fund of \$5 to 9 Billion (i.e. depending on the market price and whether each auction is sold out). By law, that money must be directed into climate change related programs across the province. It should be noted however that the Ontario Progressive Conservative leader raised concerns just prior to the auction and has said that – if elected - he would end the cap and trade system<sup>17</sup>.

## **6.0 RECOMMENDED ACTIONS IN SUPPORT OF OXFORD COUNTY'S GOAL OF ZERO WASTE**

### **6.1 Priority Actions Recommended**

This section of TM4 presents an initial list of actions recommended for Oxford County in response to recent provincial waste management and climate change legislation, government waste-related strategies and other actions that will have an impact on Oxford County achieving its long-term goal of zero waste. Twelve specific measures are recommended for action. For each measure:

- A brief description is provided, including the recommended priority importance of the measure for the County (i.e. high, medium or low)
- A discussion of other agents/stakeholders who might be engaged with the County in implementing the measure; and
- An assessment of the rationale of the measure.

For the purpose of this draft report, the measures are listed in the order raised through Sections 2-5 of the Memo (not by priority of the activity). Once the measures are reviewed and agreed

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<sup>17</sup> McCarthy, Shawn. "Cap-And-Trade Auction In Ontario Yields \$472 Million". The Globe and Mail April 4. (2017): B1-B2. Print.

upon/modified by the County and the Oxford Zero Waste committee, they could be re-ordered in terms of perceived priority. The Memo concludes with a brief discussion of other issues and opportunities identified through the project research that might be part of considerations for the County's achieving zero waste in the future. It should be noted that this Memo deals primarily with the current provincial legislative and regulatory environment. Other parts of the overall study are more focused on technology solutions that will form a central component of the County's work towards zero waste.

ACTION	Priority	Stakeholders	Rationale
#1 - Oxford County should track the development of regulations related to the transition of existing diversion programs and organizations	Mid	Association of Municipalities of Ontario (AMO)  Other smaller/ rural/ northern Ontario municipalities	The tire regulations are expected first – this process will provide insight into the regulatory framework for other EPR materials

*Action #1 – Track the development of regulations related to existing diversion programs and stewardship organizations.*

While both the Strategies and recent Acts dealing with waste management and climate change issues in Ontario discussed in this Memo set a clear direction of what a circular economy is expected to mean for the province (and for key stakeholders like municipalities), the details of what the legislation really means lies in the companion regulations and detailed actions that are developed. As noted in Section 5 of the Memo, that process has already started in the climate area; but the regulations related to the Waste Free Ontario Act are still several months away (and may be over a year away for some materials given that there will be a provincial election within approximately 13 months).

As described in Section 4, the first existing program and organization to be transitioned has been determined by the Minister to be tires. While the tire regulations themselves may not be of vital importance to the County, other EPR programs and materials are expected to be. Discussions and decisions around the tire regulations will help indicate the province's plans and directions regarding key EPR issues – e.g. targets, accessibility, measuring performance, transparency of reporting, public education and outreach and defining service standard expectations.

The most time and cost efficient way for the County to monitor and engage in EPR program and organization transitional issues is by participating (electronically and via conference calls at least) in AMO's standing Waste Management Task Force. Municipal members of OWMA can also be a valuable source of information on regulatory developments since its staff also actively participates in consultations on key policy and program changes.

<b>ACTION</b>	<b>Priority</b>	<b>Stakeholders</b>	<b>Rationale</b>
#2 – Oxford County should actively engage in discussions regarding the timing of any new EPR regimes that include materials that are of interest to the County’s citizens	Mid	AMO  All Ontario municipalities interested in waste diversion and EPR service delivery options  Ontario Waste Management Association (OWMA) - particularly the municipal members on its board	Even if Oxford County chooses not to be a direct service provider, it has a strong interest in ensuring that future EPR programs are designed and operated to maximize diversion of targeted materials

*Action #2 – Actively engage in discussions regarding the timing of any new EPR regimes that include materials that are of interest to the County’s citizens.*

As was noted in Section 4 of this Memo, current timing for the transition of the Blue Box program to “full EPR” is not projected in the Strategy until 2023 (with all other transitions scheduled to be completed by 2020). Given that local municipalities are not receiving their full 50% share of funding and given that the Minister has the authority to increase funding above 50% as an interim step, it is recommended that Oxford County join with AMO (and other municipalities) to accelerate either (or both) the future funding share during the transition (i.e. above 50%) and the timing of the blue box program transition (to 2019 or 2020 at the latest). AMO (and other engaged Ontario Municipalities) are Oxford County’s natural partners in this recommended action. Municipal members on OWMA’s Board will again be a helpful resource regarding transition timing for Oxford County officials for reasons noted above.

<b>ACTION</b>	<b>Priority</b>	<b>Stakeholders</b>	<b>Rationale</b>
#3 - Oxford County should encourage MOECC to expand the scope of materials and collection points as existing waste diversion programs are transformed into new EPR regimes	High	Association of Municipalities of Ontario (AMO)  Oxford Works and Oxford Zero Waste	A common set of (expanded) blue box, electronic and MHSW materials and collection points (e.g. BIAs and public spaces) will increase the diversion impact of new EPR programs

*Action #3 - Encourage MOECC to expand the scope of materials and collection points as existing waste diversion programs transform into new EPR regimes.*

Some printed and unprinted papers are currently not included in blue box programs; nor are a host of packaging-like products such as flowerpots and trays, coffee and other cups, plates, take-out cutlery etc. A common and expanded list of Blue Box materials could also be collected from business improvement areas and public spaces to enhance the public’s opportunities to recycle. As noted in Section 4, expanded lists of additional electronic and electrical waste and more household special wastes are currently being prepared by MOECC (the reports are due this summer). To repeat, all municipalities – and especially a County like Oxford with a zero waste goal – have vested interests in expanding the scope and range of materials that can be diverted from landfill through improved EPR programs for existing waste materials.

ACTION	Priority	Stakeholders	Rationale
#4 – Begin planning now to determine the role the County wants to have/fight for with regard to future EPR program regimes and delivery	High	Brand holders  Emerging Producer Responsibility Organizations  MOECC  Oxford County elected officials, Works employees and Oxford’s Zero Waste committee	As a landfill operator with a zero waste goal, Oxford County has a direct interest in ensuring the efficiency and effectiveness of future EPR programs regardless of its on-going service delivery focus

*Action #4 – Determine the role the County wants to have/fight for with regard to future EPR program regimes design, delivery, continuous improvement and delivery.*

As noted in Section 4, if the BC program and legislation is to be a guide for Ontario, it can be anticipated that while a municipality may retain a role as a collector/collection contract manager in the future (if it so chooses), it is unlikely (at least with regard to Blue Box materials) that municipalities will have a continuing role in blue box (and likely other) EPR material processing and marketing. But the key first step in this process is for Oxford County to decide what kind of role it wants to play in direct diversion service delivery in the future.

Even if the County decides not to have a direct service role in EPR program delivery, the County is likely to remain in waste, landfill, organics operations and diversion planning “businesses” for the foreseeable future (although as zero waste is approached in the future, the County might choose to consider no longer owning a landfill – provided it retains some control over what gets disposed at the Salford facility). As noted earlier, the County - on behalf of its

citizens - has a vital interest in monitoring, measuring and evaluating the delivery of programs designed to divert waste from disposal (otherwise, how can zero waste ever be achieved locally?). This is just to reinforce that stepping away from direct EPR service delivery in some areas (if that is the County's choice) does not mean the County doesn't retain a central role in "watchdogging" how future EPR programs perform and are designed, delivered and managed.

ACTION	Priority	Stakeholders	Rationale
#5 – Track the amendments to the 3Rs regulations to increase resource recovery from across all sectors	Mid	AMO/other engaged municipalities  OWMA  Oxford County small and medium sized businesses	Oxford County's zero waste plan includes a plan not to export waste out of the County. It will be very hard to control ICI waste flow but some cost-effective initiatives can help improve waste diversion from the ICI sector

*Action # 5 – Track the amendments to the 3rs regulations to increase resource recovery from across all sectors.*

As noted earlier in this Memo, controlling ICI waste flow is challenging. None the less, much can and needs to be done to reduce waste generation particularly among small and medium sized businesses across the province and across the County. One of the positive changes with the creation of the Resource Productivity and Recovery Authority (RPRA) and its Registry is that data gathering on ICI waste generation and diversion will be much improved. Municipalities have an interest in seeing improvements in the performance of waste diversion from institutional, commercial and industrial operations to match the improvements that have been made – and that are promised through the new legislation - in the residential sector.

As with the other mid-level priority "monitoring and tracking" functions noted above, participation in AMO Task Groups (and communications with municipal members of the OWMA Board) provides the best window for Oxford County to monitor progress on the progress of amendments to the 3Rs regulations.

ACTION	Priority	Stakeholders	Rationale
#6 – Seek ways to improve the performance of hazardous and non-hazardous recyclables and organics materials diversion from multi-	Mid	Waste Haulers  Building residents, owners and superintendents in	Although waste from MF buildings is clearly residential waste, it is sensible for planning purposes to treat it like ICI

family households in the County		Oxford County	waste as it is commonly collected through the ICI system
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*Action #6 – Seek ways to improve recyclables and organics diversion from multi-family residences in Oxford County.*

It is anticipated that the County’s detailed waste audit results will show – like with most other municipalities across Canada – that recyclables and organics recovery from multi-family households in Oxford County lags behind the participation and performance of single family households. Since it can also be anticipated that the mid to long-term responsibility for improving at least the blue box recycling performance of this sector (i.e. under a new full EPR regime) will lie with brand holders, the main focus for the County will likely be on organics diversion from this segment of the waste stream. How this can best be addressed needs to be considered as part of the long term future technology choices the County makes through this project. The County could also consider competing with private sector collectors in the multi-family sector if it were to determine that overall diversion performance from this sector was not progressing satisfactorily.

Waste Diversion Ontario’s Continuous Improvement Fund (which continues to operate until the end of 2018) has a wealth of successful multi-family diversion project experience (mainly dealing with blue box materials). They also have a multi-family recycling working group, led by a municipal representative from the city of London who is a great local resource on multi-family building waste diversion monitoring, service and engagement programs.

<b>ACTION</b>	<b>Priority</b>	<b>Stakeholders</b>	<b>Rationale</b>
<p>#7- Provide encouragement and assistance especially to local small and medium sized businesses to help them reduce the amount of waste sent to landfill.</p> <p>The County should join the National Zero Waste Council to help inform its work in this area.</p>	High	<p>Mayor’s office/ County officials &amp; County Works departments</p> <p>Local chambers of commerce/business associations</p> <p>FCM, Oxford Zero Waste &amp; Zero Waste groups &amp; programs in other parts of Canada (e.g. FCM’s Circular Economy Business Toolkit)</p>	<p>Much can be accomplished in diverting ICI waste by engaging local elected officials and works employees in outreach and technical support campaigns targeted to small and medium sized businesses across the County</p>

*Action #7- Provide encouragement and assistance to local small and medium sized businesses to help them reduce the amount of waste sent to landfill.*

Unless the County chooses to pursue either aggressive landfill price reductions (to “attract” then divert more ICI waste) and/or pursue some form of local flow control bylaws, a good option for the County to help reduce ICI waste sent to landfill (either within or outside the region) is to develop and implement a campaign of business education, outreach and technical assistance focused mainly on small to medium sized business and institutions. On the education front, it is recommended that the County engage its elected officials in outreach and recognition programs to describe the County’s ambitious zero waste plan, to talk about why waste reduction from local businesses and institutions “matters” and is the “right thing to do” and to reward businesses that take up the challenge with regular recognition programs (using both conventional media such as newspapers and newsletters as well as social media outlets). On the technical support front, it is recommended that consideration be given to hiring/seconding dedicated County staff to provide on site waste audit advice and waste reduction planning assistance to local County businesses.

To help design an effective outreach and technical support program to help local small and medium sized businesses, both County staff and Oxford’s Zero Waste committee would be well advised to investigate and learn from the success of others who have successfully launched and managed these kinds of campaigns/initiatives. The Federation of Canadian Municipalities (FCM) has (with Metro Vancouver) spearheaded the formation of the National Zero Waste Council. As will be discussed later, the Council has been a leader as a resource to municipalities and other local stakeholders across the country on both circular economy thinking and planning and – perhaps most notably for Oxford County – on food (and textiles) waste reduction planning and programming. In addition, several Canadian municipalities (e.g. Canmore Alberta, Whitehorse Yukon and Markham Ontario, just to name a few) have been local leaders in working towards a zero waste future. Much can be learned and applied in Oxford County from other local pioneers and leaders like these (and others). The National Zero Waste Council has also produced a “Circular Economy Business Toolkit” designed to support businesses interested in applying circular economy concepts to their operations. This is a resource that may be of value to local businesses in Oxford County (note - its ideas are targeted more towards larger companies).

In 2008, the city of Owen Sound implemented a unique idea by passing a by-law that required businesses (over a certain size) to register how much they disposed and recycled each year. About 600 local businesses complied with by-law, but the city was unable to manage the volume of information received so the by-law is no longer enforced. The city of Toronto offers “free” recyclables collection (and in their case green bin service as well) to eligible small businesses. Businesses are, in turn, required to purchase garbage tags to set out garbage that is collected by the city and/or the city’s contractor.

ACTION	Priority	Stakeholders	Rationale
#8 – Oxford County facilities should serve as a model of best practice zero waste	High	County elected leaders and Works employees	The County can serve as a model of waste diversion best practices

ACTION	Priority	Stakeholders	Rationale
diversion measures in offices and facilities across the County			for other small and medium sized business and institutions throughout the County

*Action #8 - County facilities should serve as a model of good waste diversion practices in offices and facilities across the County.*

A shining example of an Ontario municipality “walking the talk” of its Zero Waste commitment is the city of Markham. In 2008, Markham Council adopted Zero Waste as a sustainability project to change the municipality from waste managers to a “resource management organization”. Zero Waste at the municipal level is intended to challenge unsustainable purchasing policies, poor packaging design (i.e. through green procurement) and inefficiency. Markham began its journey towards Zero Waste in its own buildings. The Markham Civic Centre – that houses 500 staff, a restaurant, a daycare centre and many local events – became the first Zero Waste facility in Ontario – diverting 96.5% of its waste from landfill.

Markham is committed to setting an example for residents through its own operations and transferring its expertise to assist other governments, businesses and local schools to adopt sustainable waste management practices. In 2009 for example, the municipality extended its Zero Waste policy to include the more than 300 community and special events held at Markham facilities every year. Event organizers are provided with a copy of the policy when they submit their special event application, so that they can take action to use recyclable and compostable products and reduce waste<sup>18</sup>. Markham has also been a leader - in a program that is now spread across all of York Region – in supporting zero waste planning and implementation in schools. This is another very current zero waste program that could readily be brought and adapted for Oxford County schools.

ACTION	Priority	Stakeholders	Rationale
#9 – Support the province in designating new materials for diversion under new EPR program regimes	High	AMO OWMA Other engaged Ontario municipalities Oxford Zero Waste	Any material that can be well managed through a properly designed, operated and monitored EPR program should be diverted from landfill through a new EPR regime

<sup>18</sup> Vaughan Food Bank: <http://vaughanfoodbank.ca/articles.php>.

*Action #9 – Support the province in designating new materials for diversion under new EPR program regimes.*

Ontario is a signatory to the Canada-wide Action Plan for extended producer responsibility (CAP-EPR). Under this agreement (which includes the federal government and all provinces and territories), each jurisdiction committed to working towards the development EPR framework legislation (like the Waste Free Ontario Act) and/or regulations for the implementation of EPR programs and/or other requirements in two phases. Phase 1 materials/product categories were to be addressed by 2015 and include: packaging, printed materials, mercury-containing lamps, other mercury containing products (e.g. thermostats), electronic and electrical equipment, household hazardous and special waste and automotive products. For the most part – and especially with the new Act now in place - Ontario has done reasonably well on its commitment to Phase 1 material programs.

Progress on Phase 2 CAP-EPR in Ontario and elsewhere has to date been much less successful. Phase 2 product categories (to be addressed by 2017) include: construction materials, demolition materials, furniture, textiles, carpets and appliances (including ozone depleting substances). As noted in this Memo, the new Waste-Free Ontario Strategy and Act “promise” EPR action on some of these materials (e.g. mattresses, carpets and furniture) within the next 3 years. The province has made these commitments (through CAP-EPR) before. It’s important that local zero waste leaders like Oxford County hold the province to this commitment to divert targeted new waste materials under new EPR program regimes in a timely manner. Materials not well suited to EPR (e.g. C&D waste) might best be addressed through targeted landfill bans. (Please see further discussion below).

ACTION	Priority	Stakeholders	Rationale
#10 – Participate (through AMO and as part of the province’s recently established Organics and Food Waste Working Group) in consultations and the development of a food and organic waste action plan	High	AMO/FCM  MOECC Working Group  Like-minded small rural and northern municipalities facing organics and food waste reduction challenges	Food and organic waste planning and management is likely the County’s single most important waste management priority now and over the next 5 years

*Action #10 – Actively participate - through AMO - in MOECC’s consultations and the development of a food and organic waste action plan.*

As noted in Section 4 of this Memo, food and organic waste planning and management is likely to be the County’s single most important waste management priority now and over the next 5

years. Examining and assessing the most appropriate technologies to help better manage this stream is an important part of what the County is considering through this overall project. But in order to establish an effective “voice” at the Working Group table, Oxford County needs to be (and be seen to be) implementing cost effective organic and food waste reduction measures as part of an active, current and on-going best practices program.

ACTION	Priority	Stakeholders	Rationale
#11 – Regardless of what additional waste treatment technology(ies) the County selects in the future, it is recommended that the County implement a comprehensive food and organic waste reduction strategy and set of programs	High	AMO  Compost Council of Canada  FCM/ National Zero Waste Council  Oxford Zero Waste	It is anticipated that the province will seek to implement a food waste disposal ban by 2022. In advance of provincial action, preparing for and ideally implementing a voluntary, successful food waste reduction from landfill strategy and program will serve the County well

*Action #11 - County implement a comprehensive food and organic waste reduction strategy and set of programs.*

In addition to its on-going landfill gas recovery efforts (and whatever new technology investments are made as a result of this and further study by the County), a three part comprehensive organics and food waste reduction program is recommended for the County’s consideration:

1) *Multi-family composting/organics diversion* - Examine and implement (on a staged basis – i.e. over the next 5 years) organic and food waste composting/diversion efforts among the County’s multi-family buildings. As noted earlier, improvements in multi-family recycling system performance are expected to be part of full producer responsibility program expansion for blue box materials in the future. Overall organics diversion will likely remain the primary responsibility of the County. The right kind of program will depend in part on future technology and system choices made by the County but planning could begin immediately to consider low–cost options such as expanding backyard composting (for at least yard waste) to multi-family buildings.

2) *Food waste reduction education and outreach* – The National Zero Waste Council (initially a collaboration between FCM and Metro Vancouver) and has been a national leader in food waste reduction planning and communications (among other areas). Three specific initiatives merit Oxford County’s attention and consideration:

i) During 2016, the Council's Food Working Group focused on building the case and support for a federal tax incentive to increase the donation of nutritious food to charitable organizations. As of June last year, 22 local governments had passed the following resolution: "that FCM support the National Zero Waste Council's food waste reduction federal tax incentive proposal and urge the government of Canada to implement tax incentives for food producers, suppliers, and retailers to donate unsold nutritious food, thereby helping reduce food waste, lower municipal costs for waste disposal and decrease the environmental impact of food waste<sup>19</sup>". As part of its own food waste reduction strategy and plan, Oxford County may want to endorse this resolution as well.

ii) The Council's Food Waste Working Group is also promoting the take up of Metro Vancouver's very successful "love food, hate waste" campaign both at the national level and for use by local municipalities. Efforts to establish and launch a National Love Food Hate Waste Campaign continued throughout 2016 and is worthy of Oxford County's use at the local level. When this campaign idea to reduce food waste was first launched in the UK, 1.1 million tonnes of food waste waste was diverted simply through food waste diversion programming (representing 18% reduction over the first three years of the program).

iii) Finally, the National Zero Waste Council has developed a "call to action" to the federal government for action on food waste in the form of a National Food Waste Reduction Strategy. Reducing food waste is seen to be a significant opportunity to cut greenhouse gas emissions as the disposal of organic materials in landfills accounts for about 4 percent of all of Canada's GHG emissions. The National Food Waste Reduction Strategy was submitted to the Federal Government's Pan-Canadian Climate Framework portal for consideration.

On an Ontario level, partly as a result of its recently approved 25 year Waste Management Master Plan, York Region spearheaded a process in 2015/16 to engage all key players in the food chain – farmers, distributors, retailers and other commercial interests – in working together to examine ways to reduce food waste across the Region. Many of these same players are now engaged with the previously mentioned provincial Organics and Food Waste Working Group. York Region is one of the first municipalities in Ontario to set a 15% green bin/food waste reduction target (representing about 14,000 tonnes) as part of its long range target for 2031. The Region is also working towards 5% less yard waste collection (by promoting backyard composting) and 5% increase in reuse (mainly through enhanced curbside waste swaps and exchanges).

- 4) *Optimize backyard composting efforts and outreach among single family households* – Many Ontario municipalities (especially in smaller and rural areas) have underwritten part of the cost of backyard composters. Although it is not a comprehensive solution on its own, backyard composting does allow interested residents to take action to reduce

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<sup>19</sup> "Greater Vancouver , Jan 18, 2017, Burnaby, BC". Regional District Finance And Intergovernmental Committee Meeting Minutes. 2017. Online.

food waste disposal from their own homes and to produce quality compost for their gardens.

ACTION	Priority	Stakeholders	Rationale
#12 – Implement landfill bans at least on materials that are covered under existing and new EPR regimes as they come into place	High	Oxford County elected officials  Oxford County Works department  MOECC	Landfill bans are a good complement to existing and expanded future EPR programs

*Action #12 – Implement landfill bans at least on materials that are covered under existing and new EPR regimes as they come into place.*

Disposal bans are being proposed through the Waste-Free Ontario Act and Strategy for materials covered by existing diversion programs, food waste and potentially other items (e.g. mattresses, furniture and carpets if they are covered by future EPR regimes). Disposal bans can be an effective tool – for example when combined with an EPR regime – to incent product and material reduction, reuse and recovery. Four conditions need to be in place for disposal bans to work effectively:

- The landfill operator must have the appropriate enforcement staff and rules in place (e.g. surcharges for loads containing some percentage of banned materials);
- There must be adequate and appropriate diversion capacity for banned materials (i.e. they need a different place to be directed);
- The overall system needs to ensure that it doesn't result in material simply being exported to other jurisdictions for disposal; and
- Disposal bans are done in concert with other complementary diversion tools – such as extended producer responsibility and (enforced) generator requirements.

Many leading jurisdictions have disposal bans on a wide range of materials; others are more focused. The Region of Halifax for example bans a wide range of materials but specifically also bans any un-processed waste from landfill (i.e. the material needs to be “handled” for potential diversion prior to disposal). Not surprisingly, jurisdictions with a comparatively long list of EPR programs tend to also have long lists of disposal bans. The province of BC has the most extensive regime of EPR programs in the country; consequently, Metro Vancouver has an extensive list of recyclable, product stewardship and hazardous material bans. Some of these materials include:

- *Banned recyclables* such as: corrugated cardboard; recyclable paper; green waste; glass metal and banned plastic containers; all beverage containers (except milk); food waste and clean wood (both new in 2015);
- *Banned hazardous and operational impact materials* including: agricultural waste; asbestos; auto bodies and parts; biomedical waste; gypsum; mattresses; propane tanks; and inert fill material > .5 cu metres/load (e.g. sod, gravel, concrete and asphalt); and
- *Banned product stewardship materials* – antifreeze/antifreeze containers; gas; pesticides; pharmaceuticals; lead acid batteries; oil, oil filters and containers; paint products; WEEE; tires; thermostats; fluorescent lights and batteries.

As noted earlier, surcharges apply if any of these materials are found in the garbage at Metro Vancouver disposal facilities. A \$50 minimum surcharge, plus the potential cost of removal, clean up or remediation is applied to loads containing banned hazardous and operational impact material or product stewardship materials. A surcharge of 50% of the tipping fee on the entire load is applied to loads containing banned recyclable materials.

The current overall diversion rate for all materials and program in Metro Vancouver is 62%. It is interesting that in their most recent (2015) detailed audit of materials still making their way into the waste stream (despite the city's diversion efforts) are: compostable organics (27% of the remaining waste and a banned material as noted above); paper and plastics, both representing 19% of remaining waste and both include materials under EPR programs; non-compostable organics (primarily finished and pressure-treated wood) and building materials (at 9% of remaining waste).

A set of challenging materials commonly cited as a potential “target” for bans (i.e. rather than EPR) is construction, landscape and demolition waste. The City of Calgary (about 10 years ago) examined a range of approaches to divert more C&D waste from landfill (including a front-end charge to “producers” to pay for recycling of materials generated at the construction site). EPR for C&D waste has not been implemented in a comprehensive way anywhere in Canada; banning targeted C&D materials from landfill appears to be considered a more acceptable approach.

## **6.2 Future Action Considerations for Oxford County**

Several other potential waste diversion actions also emerged for future consideration by the County from the research for TM4 (but are not recommended for immediate action at this time). Three of these are briefly summarized below.

1. *EPR for “branded organics”* - The idea of assigning the cost of managing “branded” organic products (like paper towels and napkins, tissue papers, diapers, “branded fruit” and compostable products like coffee pods, cutlery and plates) that are now commonly managed in the organics stream (i.e. in green bin programs) has been discussed since the inception of blue box recycling in Ontario. The idea is why not assign the same cost

to manage brand holders products that show up in the organics stream as is done for managing printed paper and packaging in the blue box stream.

While the idea has merit, it would likely be very difficult to implement, manage and enforce. It is worth keeping the idea in mind as future EPR discussions go forward, but it is not seen to be as timely or critical as some of the other pressing EPR measures “on the table” in Ontario.

2. *Producers paying the cost for managing recyclables/product stewardship materials that end up in the municipal waste stream rather than in the blue box system* - This idea has also “been around” since the inception of blue box recycling in Ontario in the mid 1980s, and might have more “traction” than the “branded organics” issue as full producer responsibility takes hold. Under “true” EPR (i.e. as defined by Organization for Economic Cooperation and Development - OECD), producers have the responsibility – financial and economic – for the **treatment or disposal** (i.e. the full life cycle) of post consumer products and packaging. In some jurisdictions (BC for example), the role of municipalities for the management of “product stewardship” materials has become minimal – municipalities no longer process any PPP materials and many have now also relinquished responsibility for PPP collection. Even province-wide and local consumer recycling information and education is now managed by the producer agency, MMBC.

As EPR is currently interpreted (in Ontario and across Canada), producer responsibility is essentially focused on the management of the dedicated collection, processing and marketing systems to recover these materials (at about a 70-75% rate for PPP material in top performing jurisdictions). One of the questions this raises is whether producers should not also be held responsible (and, therefore, pay for) materials under an EPR regime that still end up being managed by municipalities (like Oxford County) through the municipal waste management system?

3. *Role of municipalities as “watchdogs” re the performance of waste diversion programs* – This is not so much a point of future recommendation as it is a perspective on the evolving role of municipalities in waste management in Ontario. There is a clear evolution towards greater “producer responsibility” as new waste management strategies, legislation and regulations take effect. None the less, for the foreseeable future, municipalities will retain operational and oversight responsibility for the “rest” of the waste stream i.e. organics and whatever else remains.

If the province as a whole (and Oxford County in particular) is to effectively work towards a zero waste future, then one of the functions that takes on added importance is to “watchdog” the performance of the existing and new programs designed to divert waste from landfill. Monitoring what still gets thrown away, applying pressure to increase targets as programs mature and identifying under-performing materials/brand holders in the system are just some of the functions that municipalities - and especially municipalities that own and operate landfills and are committed to zero waste – need to continue to lead on behalf of its local citizens.

**APPENDIX A**  
**PP 12-13 from Waste Free Ontario Act**  
Technical Memo 4  
Oxford County  
SLR Project No.: 209.40447.00000

## Transforming Ontario into a Leader

The following timeline will guide our path toward achieving a waste-free Ontario:

