



Ontario Federation of Agriculture

Ontario AgriCentre

100 Stone Road West, Suite 206, Guelph, Ontario N1G 5L3
Tel: (519) 821-8883 • Fax: (519) 821-8810 • www.ofa.on.ca

January 20, 2016

Marc Peverini, Senior Policy Analyst
Ministry of the Environment and Climate Change
Integrated Environmental Policy Division
Waste Management Policy Branch
Non-Hazardous Waste Policy Section
40 St. Clair Avenue West, 8th Floor
Toronto, ON M4V 1M2

VIA Email: marc.peverini@ontario.ca

Dear Mr. Peverini

Re: EBR Posting 012-9356 Proposed Strategy for a Waste-Free Ontario: Building the Circular Economy

The Ontario Federation of Agriculture (OFA) is Canada's largest voluntary general farm organization, representing more than 36,000 family farm businesses across Ontario. These farm businesses form the backbone of our robust food system and rural communities with the potential to drive the Ontario and Canadian economy forward.

OFA appreciates the opportunity to provide comments on the current strategy to help assist in successfully moving Ontario towards a Circular Economy. Our organization applauds the government for aspiring towards a "waste-free" economy; A concept exercised on farms daily to ensure products are not wasted.

OFA has long supported and advocated for diversion of waste from landfills to reduce landfill size and quantity to preserve prime agricultural land. To assist farmers in continuing to minimize and divert waste, the OFA has included the following comments and recommendations below.

"Producer responsibility" needs to be clearly identified in the strategy. This includes who is considered the "producer", for which material, and at which point in the supply chain.

The Proposed Strategy for a Waste-Free Ontario indicates it will establish requirements that producers must meet; such as reduction, reuse and recycling targets, service standards and promotion and education requirements. Producers are also accountable and financially responsible for implementing these requirements. However, this strategy does not recognize the complexity throughout a value chain and the amount of "producers", as defined by the strategy, involved in bringing products to market.

A specific concern for farmers is being identified as a “producer”, thus potentially responsible for complying with the requirements for packaging and organic waste. This concern is warranted as increasingly farmers are required to produce a certain amount of product and/or package their products in a manner determined by the retail buyer. Farmers packaging products on their farm do not have control over the packaging materials dictated by retail buyers.

Farmers are also not responsible for product distributed to retailers, and any organic waste produced downstream of the value chain. The demands for quantity and quality from retailers can add implications to food waste reduction. For instance, product imperfections or size can result in batches being returned to the farmer. Much of the implications for food waste falls on a consumer-driven retail market that demands certain food qualities and packaging of their products. In these situations, farmers must not be deemed as the “producer” of the product, and should not be accountable for the lifecycle of packaging and organic waste.

The above is an example of how complex a food system is and how producer responsibility must be identified carefully to ensure compliance is not forced on to farmers, who have no control over the market in which they provide for.

Food products may not necessarily follow a predetermined path through the value chain. For example, fruits and vegetables, may end up destined for retail, foodservice or food processing depending on the purchaser. This adds complexity to waste reduction initiatives. The food system is extremely complex with interactions between farmers, manufacturers, processors, distributors, retailers, food services, and consumers. Producer responsibility must be carefully articulated to ensure farmers are not forced to comply in a market that they have no control over.

Properly distinguishing producer responsibility for waste associated with farm products will be an important step in the strategy.

Recommendations

- For agricultural products “producer responsibility” for reuse, recycling, and recovering product waste should be the duty of the appropriate purchaser of the primary product.
- When targeting agricultural product packaging and organic waste an integrated approach utilizing best management practices and guidelines throughout the supply chain should be considered instead of imposing prescriptive regulations.

The Waste-Free Ontario Strategy requires cooperation, coordination, and harmonization between all levels of governments and ministries for successful implementation.

The Waste-Free Ontario Strategy impacts various industries and stakeholders across the province, and harmonization between all levels of government will be vital to its implementation. Waste management is also a municipal service, and will impact municipalities throughout rural Ontario.

Consultations within the provincial government and with municipalities will be important when implementing a new producer responsibility framework. Coordinating with the appropriate ministries throughout the wind-up of Bill 151 will harmonize current and on-going efforts towards a Waste-Free Ontario.

Misaligned policies can be avoided through effective communication and coordination of governments during policy development. Lack of coordination, or working in silos, can lead to contradicting policies and initiatives that ultimately will be unworkable for producers.

Recommendations:

- Various working groups will be necessary throughout the development of programs and strategies under the proposed framework.
- Working groups should include a wide range of stakeholders from government, industry, and municipalities to help develop a strategy that supports existing initiatives and aligns with current policies.
- OMAFRA should have accountability for programs or initiatives under an organic waste strategy and/or producer programs in the agri-food sector.

Bill 151 and the proposed Waste-Free Ontario Strategy shall not conflict with another Act or regulation, nor shall it unnecessarily impose on existing programs, services, or practices.

Biosecurity is a very serious issue when implementing a strategy regarding agricultural products. Many guidelines and regulations currently exist for recalls, disease outbreaks, and deadstock disposals. The Canadian Food Inspection Agency (CFIA) is an example of a governing body that will implement guidelines and regulations that are not necessarily consistent with a Waste-Free Ontario Strategy, but are implemented to reduce biosecurity and health risk for producers, processors, and consumers. If a producer responsibility framework is to be developed, existing guidelines, legislations, and regulations need to be identified, as well as exemptions from specific waste diversion responsibilities.

Farmers are currently subject to the *Nutrient Management Act* and *Food Safety and Quality Act*. These Acts allow for the effect disposal of deadstock by the farmer, through methods such as composting, anaerobic digestion, incineration, burial, collection by licensed vendor, or delivery to a licensed facility that can handle or render the deadstock. OMAFRA is responsible for the education and dissemination of information within these Acts.

The Ontario farm sector's handling of livestock and crop by-products illustrates both the concept of a circular economy and the Waste-Free Ontario Strategy. Disposal of by-products by individual farmers are also inputs for other biological processes. Composting, anaerobic digestion, and incorporation into soils are some of the ways farmers are utilizing agricultural by-product (waste) as a resource for their operation.

Farmers also utilize suitable streams for collecting, processing, or utilizing by-products, such as corn stover, wheat straw, and other crop residues. Extra produce is often donated to food banks or local humanitarian organizations, or left on a field to be composted if unsuitable for consumption.

Pesticide labels, under the *Pest Control Products Act* and the *Pesticides Act*, oblige farmers to properly dispose of pesticide container, seed bags, and excess pesticides. CleanFARMS is a not-for-profit industry-run stewardship organization that assists in the collection and recycling of pesticide containers and seed bags. This is collaborative effort between industry groups to educate farmers on how to prepare empty containers and bags for recycling. Retail businesses are utilized as collection sites and provide services for disposal of obsolete pesticides. All items are recycled and hazardous items are incinerated. CleanFARMS handles fertilizer containers as

well, and is a great example of existing programs that progress towards the goals identified in the proposed Waste-Free Ontario Strategy.

Recommendations:

- If there is a conflict between Bill 151, or a regulation made under it, and a provision in any other Act or in a regulation made under any other Act that applies, the provision in the other Act or its regulation shall prevail. Bill 151 should include this stipulation and the Waste-Free Ontario Strategy should identify all existing Acts and regulations that conflict or overlap with Bill 151 as policies are amended.
- Existing programs and guidelines in the agriculture industry should be enhanced, not replaced, to progress under a Waste-Free Ontario Strategy.
- The Waste-Free Ontario Strategy needs to assist industry initiatives, such as CleanFARMS, in implementing guidelines and programs, as opposed to imposing regulations.

Feasibility studies and cost-benefit-analyses must be considered when implementing a Waste-Free Ontario Strategy so Ontario's farm and agri-food sector are not placed at a competitive disadvantage compared to those operating in other jurisdictions without the same level of accountability for product life-cycle.

Food safety is a priority throughout the food system when dealing with growing, handling, packaging, storing, transporting agricultural products. Packaging and other potential waste products are driven by best management practices and food safety regulations that maintain integrity throughout a supply chain. Food safety and biosecurity are not identified in this strategy, despite industry requiring packaging or materials used throughout a food system to mitigate food safety risks. Food safety requirements and industry best management practices for packaging or processing cannot be forfeited as a result of the Waste-Free Ontario Strategy.

Quite often, Ontario procedures throughout the food system follow national or international standards. Also, some companies in the agri-food sector work on a national or international scale. Ontario must not create a situation that increases the costs for businesses in Ontario.

The Waste-Free Ontario Strategy could impose a great deal of acquired cost for “producers” in Ontario. The requirements and fees for diversion efforts of products and packaging, program transitioning, and possible administrative costs for data collection, registration, and reporting could significantly add to compliance costs or new costs for businesses. The risk of businesses leaving the province, due to an uncompetitive market or complexities with Bill 151 requirements, creates an unfavourable scenario for the whole food system. The cost of producing food in Ontario will surely increase, which may result in decreased profitability for farm operations, local food being less viable, and increased retail food prices.

An organic waste strategy could also create increased costs for the agri-food sector under a producer responsibility framework. It needs to be identified that the majority of food waste in Canada occurs at the consumer level. Efforts should then be focussed on increasing diversion and reduction of waste at a consumer level.

Recommendations:

- Food safety requirements and industry best management practices for packaging or processes cannot be forfeited because of the Waste-Free Ontario Strategy.
- Cost-benefit-analysis must be performed on individual businesses, municipalities, and the entire food supply chain to ensure efficient implementation strategies for waste reduction.
- Zero-waste costs in capital budget must be set by the province and municipalities and zero-waste initiatives must be inline with the funding available.
- Funding needs to be streamlined to support implementation of waste reduction. Funding from the Greenhouse Gas Reduction Account, under the Climate Change Action Plan, should be available to aid in funding zero-waste initiatives, that ultimately reduce greenhouse gases.
- National and international harmonization must be pursued to avoid an increased cost for the agri-food industry in Ontario.
- Waste-free strategies in other provinces and countries should be investigated to assist with implementation of an Ontario strategy that is cost-effective and compatible.
- Feasibility studies must be implemented to identify if new practices will result in less waste, while still maintaining proper food protection and security.
- Feasibility studies should be conducted on the whole value chain to identify interactions or practices within the value chain that can both reduce waste and be cost effective for “producers”.
- The government or authority must coordinate and consult with the agri-food sector when implementing organic waste strategy and producer programs.
- Costs associated with food waste reduction should be publicly funded since consumers are identified as the major contributor to food waste in Canada, producing 47% of total food waste (Value Chain Management Centre, 2016).

There is a need to ensure neither Ontario farmers, nor the rural communities they live in, bear disproportionate or unnecessary costs in the development and operation of a Waste-Free Ontario Strategy.

Distinctions between high-density urban areas and low-density rural areas needs to be identified. Economic feasibility is a concern when implementing this strategy in rural Ontario. Current programs for recycling and resource recovery, often rely on farmer participation for drop-off to remain economically feasible for the industry.

As demonstrated earlier, the agricultural industry has established recycling programs for many inputs necessary to conduct farm business; including: pesticide containers, tires, bale wrap, and baler twine. These programs increase diversion from landfill, burning, or burying. Such programs are not ubiquitous, however and the result is that some farmers do not have the opportunity to participate in recycling programs. Often economics dictates access to pick-up or drop-off services.

Expansion of these existing programs is necessary to ensure province-wide coverage of a circular economy. The recovery and re-use of these products throughout the whole Ontario economy must be prepared by “producers”. There are also effective by-product uses of many farm materials that can be utilized by other businesses. Expanding the collection of products for resource recovery and alternate uses should be encouraged and integrated with existing programs.

Low-density rural areas may also lack the funding and infrastructure to develop and operate the actions required in a Waste-Free Ontario Strategy. Increased responsibility and administrative actions will increase costs for rural municipalities. There is a need to ensure that rural communities and municipalities do not bear disproportionate or unnecessary costs in the development or implementation of these requirements as they are wound-up.

Recommendations:

- Existing programs should not be altered within the Strategy, rather, the new framework should expand existing programs to more regions to increase uptake by farmers.
- Integration of recovery programs should be initiated where there are efforts to recover the same, or similar, material for re-use.
- The Strategy should identify the difficulty of rural waste diversion, given the economics of pick-up, drop-off, and collection. This needs to be reviewed under a Producer Responsibility Framework as well, to determine the logistics of cost-effective recovery of products in rural Ontario.
- Improving efficiencies in current programs and increasing the funding from industry funding organizations can counterbalance an increased rural cost from program and service expansion.
- Rural Ontario needs to receive equivalent services without bearing disproportionate cost under the Strategy.
- When allocating municipal funds for all programs, the authority needs to be mindful of the increased costs associated with implementation in rural Ontario and should allocate more funding per capita to rural municipalities when calculating funding to avoid disproportionate cost burdens.
- Actual costs of zero-waste initiatives in rural Ontario should be cost-shared with densely-populated urban regions to ensure adequate services for all of Ontario.
- Expanding the collection of products for resource recovery and alternate uses should be encouraged and integrated within existing programs. This is a cost-effective approach of increasing services to rural Ontario (e.g. bale wrap collection).

Renewable bio-gas is an integral part of a Waste-Free Ontario Strategy.

Creating renewable energy through anaerobic digestion is a means to divert waste from landfills while also reducing greenhouse gases by capturing methane. Not only is waste diverted from landfills and converted to a bio-gas, but existing waste in landfills can also be processed in anaerobic digesters, resulting in less landfill space required and less greenhouse gas emissions from organic wastes. Renewable energy is an essential missing piece in Ontario's Waste-Free Strategy and needs to be examined within the organic waste action plan of the Strategy. Implementation of an organic waste action plan will look to divert food and organic waste going to land fill; strategically constructed renewable energy hubs are a feasible means of achieving this.

Renewable energy, gas, and fuel are an integral part of a bio-based and waste-free economy. Promoting biogas conversion into renewable natural gas and fuel for electricity generation will help rural communities take ownership of developing local green energy hubs and bring economic development beyond urban centres. Renewable gas is also a source of combined heat and energy that can be efficiently utilized with a green energy hub. Utilizing cogeneration makes this practice even more sustainable. Community energy generation projects meet local energy needs

and enhance local capacity and resilience, while reducing the dependence on long-distance power transmission. Municipalities should be encouraged under a strategy to utilize their organic “assets” by feed stocking organic processors that will create renewable energy or fertilizer with organic compost and sewage sludge. This will take industry collaboration to expand projects to process organic waste into a natural gas or, proven fertilizer products that will pass certification by the CFIA and be practical for farmer use.

While the OFA understands that the current strategy does not identify renewable gas as a theme, we encourage that it be recognized as a viable initiative to help move towards a zero-waste economy. OFA would also identify green energy hubs, that also utilize services for further processing of organic waste or digestate, as a green procurement practice, which is supported within the Strategy.

Recommendations:

- Support anaerobic digester utilization by generators, landfills, businesses, and farms.
- Provide carbon offsets for businesses capturing or reducing greenhouse gases (methane) under the Climate Change Action Plan to increase incentives for utilization of anaerobic digesters.
- Identify renewable natural gas as an effective way to capture methane and reduce Ontario’s reliance on landfills.
- Anaerobic digesters are a green energy procurement and should be recognized under the Strategy for their ability to sustainably destroy methane by providing combined heat and energy that can be utilized by a facility or distributed.
- Support waste management practices, including the removal of bio-waste from landfills to be converted into renewable natural gas.
- Support district energy hubs that utilize bio-waste to convert biogas into renewable natural gas and fuel for electricity generation to enhance local energy self-reliance.
- Strategically-position district renewable energy hubs in areas with high feedstock ability, that can divert organic waste from sources, including, but not limited to: farms, landfills, and municipal treatment plants. Agriculture has a large role to play to contribute to feedstock to ensure rural district energy hubs are viable.
- Expand natural gas infrastructure throughout rural Ontario to encourage district energy hubs that increase renewable gas utilization.
- The Strategy should encourage the processing of bio solids to fertilizer within renewable energy hubs to increase diversion capability.
- Through an organic waste action plan, support for collaboration between industry and municipalities will be needed to stimulate processing of municipal organic waste and sewage sludge to energy or fertilizer.

Developing and attracting a sustainable end-market that can utilize by-products and wastes as resources is in providing the necessary infrastructure for resource recovery.

Throughout a food system chain there are many opportunities to create an end-market for various produce that otherwise may be considered waste. Depending on the operation costs, some of these practices may be difficult to find a return on investment. This is likely due to a lack of cooperation and communication throughout the value chain.

Some initiatives that can be pursued under a Waste-Free Ontario Strategy can involve creating end-markets for produce that otherwise would be waste, or used for less efficient recovery processes. For example, the concept of adding value to otherwise worthless produce could mean processing products that are obscured in shape, size, or colour but still have nutritional value. Ongoing support should be provided for value-added processing initiatives that utilize graded produce or scraps to be processed into safe and nutritional value-added products.

To encourage further uptake in value added activities the OFA has adopted the following position:

If historically at least 51% of the product is grown and value-added to by the same farmer or farmers and at least 90% of the product is grown in Ontario, then the facilities should be subject only to no more than 25% of the residential property tax rate.

Retailers can also offer various products that are of lower quality to be sold for a cheaper price at market as well, or donate to a processing facility or food bank. However, these processes must be monitored to ensure that decreased food price does not result in overbuying, and ultimately increased organic waste at the consumer level.

Where applicable, further processing can remove unconsumed portions of food, such as stalks, skins, shells, leaves, etc., to avoid their disposal at the consumer level. This would be an effective way to reduce transportation of organic wastes, while ensuring that they are disposed of properly within the food supply chain.

While utilizing organic waste for compost is an effective way to return nutrients into our farmland and develop healthy soils, value-added food processing should be prioritized over secondary resource recovery.

It should also be noted that many farms currently have nutrient management plans on their operations, in which case nutrients are recovered from livestock manure and crop residues. Extra nutrients may be put on strategically when needed through a vigorous 4R program to ensure crops are receiving the **Right** type and **Right** amount of nutrients, in the **Right** place, and at the **Right** time to avoid an excessive surplus of nutrients in the soil. These practices reduce the amount of inputs needed for amending soil quality, and reduce detrimental effects to the environment, by reducing greenhouse gas emissions from the soil and nutrient loading into waterways from the field.

Nutrient preservation and recovery are a large contributor to a Waste-free Ontario Strategy. As farms reduce their use of synthetic fertilizers while improving productivity, farmers are altogether reducing the use of raw materials. Recovery of nutrients is a key step in the reduction of raw fertilizers. Ideally, the recovery of nutrients would be in specific forms of fertilizer to be compatible with current industry standards, and utilized within a 4R program. An example of this would be the recovery of Phosphorous from sewage treatment plants in the form of struvite – pellets of *monoammonium phosphate* (MAP) (Evans, 2007). Other forms of fertilizer may be ideal for various commodities as well. The strategy should support research and innovative technology that can recover nutrients from sewage treatment facilities, or even compost, in specific fertilizer formulations to be used on current farming systems.

Since compost may only be applicable to some farm operations, it should not be the only end-market product pursued in an Organic Waste Strategy. As seen above, nutrient extraction for soil amendment is also pursued in other areas, and oversaturating this particular market may end up

exhausting the potential for this stream of recovery. A complete bio-based economy has other aspects that can add other streams of recovery for organic waste.

The bioeconomy provides a means of organic waste recovery that also results in the reduction of greenhouse gases, including crop residue, food waste, paper pulp, and more. OFA has partnered with the bio-industry to expand and scale-up Ontario's bio-industries, contributing to a circular economy.

In 2012, the European Union announced its intention to pursue a circular economy (European Commission, 2012) and in so doing positioned a bio-based economy as the instrument that would enable transition to a circular economy. Zwier (2012) provides an excellent description:

Crops are harvested and used as food for human consumption, livestock feed or biomass feedstock for bio-based products such as bio-materials (e.g. fabric and building materials), bio-chemicals (e.g. succinic acid and citric acid), transport fuels (ethanol), and energy (e.g. biogas).

Biomass feedstock can also be derived from by-products associated with livestock rearing (e.g. manure), crop production (e.g. corn stalks) and food processing. On this basis, the bio-based economy is defined as:

The production of renewable biological resources and the conversion of these resources and waste streams into value-added products, such as food, feed, bio-based products and bio-energy (Economic Commission, 2012).

A bio-based economy promotes waste diversion through the processing of bio-based waste into high-value products as an initial means of recycling. The waste stream from this process will be subsequently used to further produce products with less value. Finally, any unutilized waste can be converted to energy (e.g. renewable natural gas) or as a soil amendment product. This process ensures that all resources provide value.

Diversion of waste into a bio-based economy will need support from businesses and government to create viable streams for wastes. Currently, the agriculture sector has a system for feedstock collection that is operated under the Cellulosic Sugar Producers Cooperative. The Cooperative works with industry partners and businesses to create a market for crop residue materials. Members are offered collection of feedstock, including transportation of feedstock to the processing facilities. These facilities convert the feedstock to bio-chemicals to be used for various applications.

Supporting a bio-based economy will attract business to Ontario and thus, will create a stream and demand for waste diversion services. Ontario's economy will be strengthened by creating a new market and employment opportunities, particularly in rural areas. The creation of these businesses will promote the attraction and retention of a highly-skilled workforce, supporting thriving rural communities. Educational institutions will have the opportunity to offer specialized programming in the bio-based economy, and support leading research in this field. Diversifying the rural economy will also enhance the adaptability of rural Ontario, which will strengthen the resilience of rural municipalities in a time of global economic uncertainty.

Recommendations:

- A stream for diversion through a bio-based economy be identified and supported in the Waste-Free Ontario Strategy.
- The Ontario government invest in research, innovation and capital to further develop and strengthen the bio-economy as a necessary and pivotal element in moving to a waste-free Ontario.
- Employment in bio-based waste diversion should be encouraged by engaging with educational institutions and identifying and promoting career opportunities
- Incentives should be provided to businesses to scale up Ontario's bio-economy which will provide market opportunities for farmers while diverting waste and boosting Ontario's economy.
- Incentive programs implemented in other jurisdictions under a waste reduction strategy should be researched.
- Encourage further uptake in value added activities, through property tax reductions, that can assist in organic waste diversion.
- Expanding resource recovery opportunities should be a priority in the strategy, as waste streams cannot occur if infrastructure or opportunities for diversion do not exist.
- Offsets for businesses capturing or reducing greenhouse gases be entertained under a Climate Change Action Plan to increase incentives for businesses.

Excess soil reuse should never compromise the capability of our finite, and shrinking agricultural lands to continue to produce safe, affordable food, fibre and fuel.

Excess soil reuse options on agricultural lands must ensure that agricultural uses are the preeminent priority, and that depositing excess soils on productive agricultural lands never compromises those agricultural uses.

We envision opportunities to reuse excess soils in the rehabilitation of aggregate pits and quarries, where extraction has been completed. The use of excess soils can improve the quality of the rehabilitation work, through gently sloping sides to facilitate a better agricultural end-use.

Generators of excess soil should be principally responsible for excess soil management; finding a suitable receiving site, obtaining all the necessary permits and authorizations, and ensuring that the Ministry of the Environment and Climate Change is provided with information on where the excess soil came from, the soil test results, and where it was placed.

Recommendations:

- Through the Resource Productivity and Recovery Authority:
 1. Develop mechanisms to track excess soil from source, through temporary storage, to final receiving site;
 2. Develop soil testing protocols;
 3. Ensure rigorous testing to ensure that loads are "clean";
 4. Ensure separation of topsoil and subsoil through all stages; and,
 5. Make generators of excess soil fully responsible for all permits, authorizations, studies, and associated costs.

A “one-size-fits-all” regulatory approach is not practical for implementing waste diversion practices.

Regulations can work against a waste-free strategy by focussing on compliance as opposed to actual waste reduction strategies. In a recent paper by the Value Chain Management Centre, research has shown that regulations will result in a defensive reaction from producers and will suppress innovation (Gooch *et al.*, 2016).

The Strategy needs to focus on a “whole chain solution”. Various chains have different drivers and behaviours that contribute to waste production, thus, regulations will not be effective. “Producers” need to be encouraged and motivated to adopt operating models that will reduce waste. Collaboration throughout the food chain by increasing transparency will assist in creating a more effective system that can help reduce food waste at various levels of the system and increase productivity.

The MOECC should have an integrated role in the Waste-Free Ontario Strategy, working with academia, industry professionals, and producers to discover how each operating system can efficiently change to reduce waste. The result would be Guidelines that sectors are encouraged to adopt.

Recommendations:

- The roles of the Resource Productivity and Recovery Authority should not include enforcement or compliance tools; rather, the responsibility of the Authority should be limited to operating a data clearinghouse and collecting information.
- The provincial interests identified in the strategy should be supported by an integrated approach rather than issuing policy statements under new producer programs.

Conclusion

OFA is pleased to see that cost-benefit-analysis is a priority in implementing a Waste-Free Ontario Strategy. It must be stressed that cost-benefit-analysis must be undertaken at virtually every step of the process moving towards zero-waste.

OFA cautions that regulation and policies can work against a Waste-Free Ontario Strategy and that producers or businesses should be encouraged to fulfill expectations under this Strategy through innovation and effective means of self-managing waste.

OFA has identified renewable energy development as a key missing piece in the Strategy. District energy hubs that will divert organic waste to gas, fuel, or energy should be identified as an integral service within an organic action plan.

Assessments of a Strategy must also be undertaken at every step of the process. Business-business diversion assessments, as well as diversion assessment on a regional and temporal scale can help identify progress, and where improvements can be made. Rural communities cannot be put at a disadvantage by decreasing services and implementing inequitable costs associated with a Waste-Free Ontario Strategy.

OFA is concerned that some actions may cause an uncompetitive environment by implementing undesirable fees and costs associated with the Strategy. Policy and operational harmonization will be important to ensure that Ontario remains competitive within a national and global economy.

OFA commends the government for understanding that implementation will need to occur in a coordinated, integrated, and consultative process to reflect the unique considerations of particular streams and sectors. Objectives must be evidence-based and attainable. Through rigorous monitoring and consultations, cost-effective goals should be targeted under the strategy. Partnership will be key in integrating current and ongoing actions for waste reduction and diversion. Academia, municipalities, service providers, and “producers” will all have a role to play under developing a successful Waste-Free Ontario Strategy.

OFA looks forward to working with the Ontario government on specific actions toward a waste-free Ontario, while supporting a thriving farm and agri-food sector and recognizing their contribution to resilient rural economies.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Keith Currie", is positioned above the printed name and title.

Keith Currie
President

De-Bashan, L.E., and Yoav Bashan. 2004. Recent Advances in Removing Phosphorus from Wastewater and its Future Use as Fertilizer. *Water Research*, Volume 38, Issue 19, November 2004, pp. 4222-4246

European Commission. 2012. *Manifesto for a Resource-Efficient Europe*. European Commission Memorandum, December 17, 2012. Brussels, Belgium.

Evans, T.D. 2007. Recovering Ammonium and Struvite Fertilizers from Digested Sludge Dewatering Liquors. From, Proceedings of International Water Association Specialists Conference: Moving Forward – Wastewater Biosolids Sustainability. June 2007. Moncton, New Brunswick, Canada.

Value Chain Management Centre. 2016. Food waste: Aligning government and industry within value chain solutions. Value Chain Management International Inc., October 4, 2016. Retrieved from: <http://vcm-international.com/food-waste/food-waste-publications/>