

# Regulating Ontario's circular economy through food waste legislation

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## Abstract

**Purpose** – Ontario's Ministry of Environment and Climate Change seeks to legislate diverse waste streams (including food waste) by implementing Bill 151, known colloquially as the Waste Free Ontario Act. The purpose of this study is to investigate how stakeholders in Ontario's food and waste systems perceive the prospective legislation.

**Design/methodology/approach** – The paper is based on interviews with stakeholders across the food value chain in Ontario, as well as an analysis of legislation and related documents.

**Findings** – The paper argues that Bill 151 represents the Province's commitment to an ecological modernization paradigm. This research uncovers the lines of tension that may exist in the implementation of food waste policy. These lines of tension represent stakeholders' ideological perspectives on food waste, including whether it signals an efficient or inefficient economy, whether legislation should prioritize economic or environmental goals and whether it is more appropriate for legislation to incentivize desired food waste treatments or penalize/prohibit undesired activities.

**Originality/value** – The analysis reveals potential allies in the regulatory process, likely points of contention and areas where greater consensus may be forged, depending on government efforts to reframe the issues at stake.

**Keywords** Governance, Government, Food waste, Stakeholder analysis, Circular economy, Ecological modernization

**Paper type** Research paper

## Introduction

It has been estimated that one-third of all food produced is wasted along the supply chain (Gustavsson *et al.*, 2011). In Canada, the numbers are even higher: it is estimated that roughly 40 per cent of food is wasted, at a cost of \$31bn annually (Gooch and Felfel, 2014). Food waste impacts the environment, the economy and society at large (Alexander *et al.*, 2013; Gustavsson *et al.*, 2011; Lundqvist *et al.*, 2008; Papargyropoulou *et al.*, 2014; and Parfitt *et al.*, 2010). The emissions associated with food waste decomposing in landfills is



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one of the world's largest sources of greenhouse gases; if compared to national emissions, the greenhouse gases associated with food waste would represent the 3rd largest contribution, behind the USA and China (FAO, 2013). Furthermore, wasted food represents lost labor and resources at all stages of the food value chain. Statistics Canada estimated that in 2012, roughly 12.5 per cent of Canadians were food insecure. The juxtaposition of so much waste alongside high rates of food insecurity is an indicator of problems in our food and waste systems. Consumers' relationship to food has changed: food is seen as a disposable good, or commodity, rather than a substance needed to live (Göbel *et al.*, 2015, Winson 1995).

Past legislative efforts have failed to slow the problem of food waste and have created ambiguity around who is responsible for the reduction and treatment of waste. The very nature of food makes it difficult to assign responsibility for its proper disposal: At what point does food become inedible? Under what circumstances is food recoverable as feed for animals or nutrients through compost? With whom does the moral imperative for preventing food waste lie across the food value chain? The quickly changing materiality of food waste contributes to this uncertainty; food can transition from a valued commodity and useful product to an abject waste item over a short period and because of multiple causes (Alexander *et al.*, 2013; Evans *et al.*, 2013, Van Bommel, 2016). Perhaps because of this ambiguity, there exists a lack of trust between members of the food value chain and the provincial government's ability to "contain" the issue of food waste. Ontario has attempted to grapple with this problem for many years with a series of legislative starts and stops. Inspired by other jurisdictions (notably China and the European Union; Province of Ontario, 2017), Ontario's Bill 151 seeks to go beyond simple reduction and diversion mechanisms of past legislation regarding waste and instead implement a circular economy model. In a circular economy, a product is not disposed of at the end of its lifecycle but is reused to create new products. This process has the potential to recapture value from a product typically thought of as a "waste" and is ideally a way to both promote economic growth and protect the natural environment.

In 2015, the provincial government of Ontario proposed new legislation to address Ontario's waste problem. This legislation is Bill 151: The Resource Recovery and Circular Economy Act, 2016 and the Waste Diversion Transition Act, 2016 (hereafter, Bill 151). This is not the first time that the Ontario government has attempted to regulate matters of waste, but it is the province's most ambitious project to date, as it attempts to streamline the many disparate waste disposal processes that previously existed.

In the Canadian context, particularly in Ontario, there have been several start and stop attempts to "manage" waste over the past 30 years. Most of these have primarily focused on solid wastes, or packaging wastes and other materials that can easily be recycled. While these efforts have been effectively consolidated into a province-wide mandate that requires municipalities of over 5,000 residents to collect materials placed in a blue recycling bin by their constituents, legislation mandating collection of a green organics bin has been far slower to develop. Current collection of "organic waste" is limited to a mandate on the collection of leaf and yard wastes at the municipal level. Both recycling and leaf and yard waste mandates fall mainly under Ontario Regulation 101/94: *Recycling and Composting of Municipal Waste* (2011), originally part of the Environmental Protection Act of 1990. However, this regulation does not extend to uneaten food. Municipalities that do collect food waste do so voluntarily and are under no obligation from the province to provide the service. Of the 444 municipalities in Ontario, 103 have a green bin collection program, and most of

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those are in southeastern Ontario, specifically the Greater Toronto Area ([Association of Municipalities of Ontario, 2017](#)).

The Ontario government instigated a restructuring of waste management legislation, spurring the creation of Bill 151. This act proposes that Ontario move toward a circular economy model of waste management, with an emphasis on extended producer responsibility. Canadian versions of extended producer responsibility have been described as “product stewardship,” whereby producers and importers bear financial responsibility for the management of recyclable materials ([Hickle, 2013](#); [McKerlie et al., 2006](#)). Bill 151 builds upon this long-standing principle for waste management in Ontario by increasing producers’ financial and logistical responsibility for recyclable materials (although it is not yet clear whether extended producer responsibility will also be applied to food waste). The bill was originated from the Ministry of Environment and Climate Change and passed by Royal Assent in June, 2016. Like regulations that have come before it, Bill 151 places a larger emphasis on the diversion and reuse of materials rather than source reduction. In Bill 151, the only mention of what will be done about food waste is an unelaborated point about “developing an organics strategy.” Food waste is *similar* to other kinds of waste in that it also impacts the economy, the environment and society at large. Yet it is distinctive in that it is a diverse and difficult to control material stream, unlike materials typically collected for recycling ([Alexander et al., 2013](#)).

Bill 151 focuses on the concept of circular economy, which ideally creates a “closed loop” in that no waste is generated: all outputs flow around the loop to become inputs for new products and are reused to their highest and best use ([Pearce and Turner, 1990](#)). The process to site and create new landfills in Ontario has become increasingly lengthy and intricate since the passage of the [Environmental Protection Act \(1990\)](#), and landfills that currently exist in the province are quickly reaching capacity. Bill 151 seeks to alleviate these pressures by finding a way to reuse waste to avoid creating new landfills and shipping waste across the US/Canadian border. By endeavoring to create a circular economy, the government of Ontario is attempting to steer the province away from being a “throwaway society” ([Evans, 2012](#); [Hawkins and Muecke, 2003](#)) and toward a more dynamic, efficient system.

The European Commission has also committed to circular economy initiatives, noting that:

In a circular economy the value of products and materials is maintained for as long as possible; waste and resource use are minimised, and resources are kept within the economy when a product has reached the end of its life, to be used again and again to create further value. This model can create secure jobs in Europe, promote innovations that give a competitive advantage and provide a level of protection for humans and the environment that Europe is proud of. It can also provide consumers with more durable and innovative products that provide monetary savings and an increased quality of life. ([European Commission, 2015](#)).

Contemporary policy framings of circular economy thus emphasize the long-term reuse of resources, as well as synergies for the labor market, the economy more broadly and the well-being of consumers.

However, critiques of circular economy discourses note that this style of management is difficult to scale up from success at the project level, and that a true circular economy would have to overcome the inertia of socio-technical systems entrenched within the traditional economy (such as energy systems; [Morone and Navia, 2016](#)). Circular economies are also not necessarily more sustainable if they require more energy or if they cycle toxins through our economy ([de Man and Friege, 2016](#)). Furthermore, when most materials are recycled, they lose structural integrity (“downcycling”), requiring the eventual introduction of new materials into production cycles. Additionally, because of the globalization of production

and consumption, efforts to create a circular economy may lead to the outsourcing of waste to developing countries (Bilitewski, 2012; Velis, 2015). These critiques suggest that it may not be feasible to introduce a truly circular economy that also provides economic and social benefits. We thus interpret Ontario's goal of moving toward a circular economy as an aspiration and a vision for long-term change. In the context of policy-making, "circular economy" is therefore a rhetorical term that invokes potential synergies between environmental, social, and economic goals. In this paper, we investigate circular economy as a discursive government project actualized through legislation. While governments have powers to prohibit and punish, legislation is most effective when it taps into and creates a culture of shared values. Otherwise, actors may dissent, cheat or revolt. This research project aims to investigate the worldviews of key stakeholders in the generation and management of food waste in Ontario to understand their prospective stances toward food waste legislation in the province. The analysis reveals potential allies in the regulatory process, likely points of contention and areas where greater consensus may be forged, depending on government efforts to frame the issues at stake. We argue that Bill 151 represents a project of ecological modernization, and our analysis assesses how stakeholders' positions align with some of the key tensions at the core of such a project.

## Conceptual framework

### *Ecological modernization*

Food waste is often treated as an afterthought when creating food or waste policies. This may be because of confusion about the precise moment when food becomes waste (Watson and Meah, 2012; Gille, 2012). Van Bommel (2016) refers to the moment that food becomes waste as the "thin and blurred line," noting that that mere threat of bacteria in a product can cause a person to throw food away, despite no evidence of the food containing bacteria that would make one sick. There is also an aversion to admitting that one wastes, whether it be food or any other material. The word "waste" itself implies the misuse or squandering of resources. Gille (2012) identifies stark dichotomies that developed countries may use to describe waste: "efficient/inefficient; useful/useless; order/disorder; clean/dirty; alive/dead; fertile/sterile" (pg. 38). Such dichotomies imply that there is a proper way to manage waste, and that those who do not do so deserve censure. The stigma attached to waste and wasting may make it difficult to confront our consumption patterns head-on (de Coverly *et al.*, 2008), and so waste remains on the margins of society as an "absent presence" (Evans *et al.*, 2013). We therefore turn to conceptual paradigms that allow for the reframing of the social values associated with waste in conversation between diverse stakeholders.

Proponents of a circular economy suggest that the economy can grow while ensuring environmental protection. Ecological modernization is a theory that supports this viewpoint. Popularized in Western European countries, this theory "reflects on how various institutions and social actors attempt to integrate environmental concerns into their everyday functioning, development and relationships with others, including their relation with the natural world." (Mol and Spaargaren, 2009). According to Frederick Buttel (2000):

A full-blown theory of ecological modernization must ultimately be a theory of politics and the state—that is, a theory of changes in the state and political practices (and a theory of the antecedents of these changes) which tend to give rise to private eco-efficiencies and overall environmental reforms. (p. 124).

Therefore, ecological modernization positions the state as an arbiter between the environment and the economy, by setting standards to protect and preserve the environment while also allowing for the "invisible hand" of the economy to achieve those

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standards. It is a shift away from previous government interventions in the environment, which relied mainly on command and control mechanisms for achieving certain environmental targets. This allowance of non-state actors into the process signifies a shift toward a system of governance (Jänicke and Jörgens, 2004), wherein ecological modernization helps supplement, rather than replace, the state as the main driver of environmental mediation (Fisher *et al.*, 2010). With this shift comes the questions of who is ultimately responsible for environmental outcomes, and how they show their responsibility and ownership of any environmental problem (Mol, 2010).

Hajer's (1995) theory of environmental discourse is one of the building blocks of ecological modernization theory. Hajer uses discourse analysis to explore how environmental problems are framed by scientists, governments and the public. He states, "Discourse analysis [...] investigates [...] how a particular framing of the discussion makes certain elements appear as fixed or appropriate while other elements appear problematic" (p. 54). Using discourse analysis as a frame, he particularly stresses that "story-lines" are created among different stakeholders: while each sector may have a common set of terms or language around which to frame an environmental problem, "they might nevertheless interpret the meaning of these story-lines rather differently and might each have their own interests" (p. 13). The interpretation of these story-lines can lead to a lack of consensus on what to do about certain environmental problems.

Hajer notes that the creation of story-lines works toward reinforcing stakeholders' perception of the problem as well as their role in it. Additionally, story-lines can be evocative and reveal or conceal meaning beyond the dictionary definition of a term. Hajer's example of acid rain shows that beyond simple precipitation, the story-line surrounding acid rain now includes imagery of "dead fish, dying trees, and smoking stacks" (pg. 64). Instead of smoke stacks being a sign of progress and a robust economy, the story-line of acid rain turned them into something more sinister: a sign of environmental degradation. With enough repetition, story-lines can become what Hajer calls "discourse coalitions," which include the story-lines themselves, the actors who participate in the creation and propagation of the story-line, and how the story-line is physically enacted. Story-lines therefore not only construct the problem but also the general place and space in which the problem occurs.

Because the story-lines surrounding ecological modernization are often ideological in nature, we have organized our analysis around "lines of tension" observed in the data. Mutch (2015) used a graphical representation of research participants' positioning along a political spectrum to explain the dynamics of decision-making for education curriculum in New Zealand. In Mutch's research, the ends of the spectrum represented the ideological far right and the far left, and her diagrams provided new insight to the educational policy-making process. In this project, we discuss lines of tension that typify opposing attitudes toward environmental management to better understand the dynamics of environmental policy-making, as discussed below.

## Methods

This research is based on document analysis and a series of interviews with stakeholders in Ontario's food and waste systems. Documents included records of hearings and advisory committee meetings on Bill 151, and submissions made by various actors during the legislative consultation phase. Additional documentation on food waste management in Ontario included corporate social responsibility reports of prominent retailers (many of whom declined to be interviewed, and sent this documentation instead), as well as reports on food waste compiled by advocacy organizations and think tanks.

DeLorenzo conducted a series of interviews with stakeholders across the food and waste systems in Ontario. Many of these interviewees had participated in a workshop hosted by our research group in February 2016 entitled “Building a Research Agenda for Food Waste in Ontario”. Additional interviewees were recruited through snowball sampling or were identified via their submissions during the public consultation for Bill 151. Interviewees included provincial government representatives (n = 2), municipal waste management representatives (n = 9), municipal public health representatives (n = 2), retailers (n = 1), food service representatives (n = 3), food distributors (n = 2), producers (n = 4), processors (n = 8), environmental and food recovery NGOs (n = 6), waste management companies (n = 7) and a representative of a waste management research organization (n = 1), for a total of 45 interviewees. Unfortunately, we were not able to interview a representative from the Ministry of Environment and Climate Change. We believe that our requests for interviews went unanswered because Bill 151 was still under development at the time of the research. However, the process of developing legislation in Ontario is fairly transparent, and so we were able to access public documentation detailing the Ministry’s goals and processes in developing this bill.

Interview questions asked about the impacts of current waste management legislation on the respondent’s organization, the prospective impacts of new food waste legislation on the sector, and perceived barriers to increasing food waste diversion. Respondents were also asked to comment on recent legislative interventions in other jurisdictions focused on food waste prevention and mitigation (e.g. bans on dumping organic waste in landfills, fines for businesses disposing of food, tax credit incentives for food businesses who donate surplus food). Because many of these legislative interventions have been highly publicized and politicized in their home contexts, we anticipated that interviewees would have a strong ideological response when asked to consider the introduction of such initiatives in Ontario. These responses constitute story-lines surrounding the ethos and implementation of ecological modernization in Ontario, and we have mapped these diverse story-lines along lines of tension that characterize key debates around contemporary environmental management.

## Results

In the following section, we describe the provincial government’s discursive framing of waste and waste management as a project of ecological modernization and highlight some of the story-lines that are evoked by this framing. We then map out the ideological responses of diverse stakeholders to these discursive framings along three lines of tension that underlie contemporary paradigms of environmental management: whether waste is seen as a sign of a healthy economy or as an inefficiency, perceived trade-offs between environmental protection and economic growth and whether environmental behaviors should be encouraged through policy-based incentives or penalties.

By introducing Bill 151, the government has established their interests in the waste sector by defining the parameters of the waste problem, naming a variety of stakeholders, assigning those stakeholders certain responsibilities and duties, and determining acceptable solutions to the problem of waste. In creating Bill 151, the provincial government has outlined what waste is, who is responsible for it, and how those parties are to treat it, which in turn creates a discourse coalition around waste (Hajer, 1995).

Bill 151 states the following:

“It is in the provincial interest that Ontario have a system of resource recovery and waste reduction that aims to:

- protect the natural environment and human health;
- foster the continued growth and development of the circular economy;

- minimize greenhouse gas emissions resulting from resource recovery activities and waste reduction activities;
- minimize the generation of waste, including waste from products and packaging;
- increase the durability, reusability and recyclability of products and packaging;
- hold persons who are most responsible for the design of products and packaging responsible for the products and packaging at the end of life;
- decrease hazardous and toxic substances in products and packaging;
- minimize the need for waste disposal;
- minimize the environmental impacts that result from resource recovery activities and waste reduction activities, including from waste disposal;
- provide efficient, effective, convenient and reliable services related to resource recovery and waste reduction, including waste management services;
- increase the reuse and recycling of waste across all sectors of the economy;
- increase opportunities and markets for recovered resources;
- promote public education and awareness with respect to resource recovery and waste reduction;
- promote cooperation and coordination among various persons and entities involved in resource recovery activities and waste reduction activities;
- promote competition in the provision of resource recovery services and waste reduction services;
- foster fairness for consumers; and
- do any other related thing that may be prescribed.” (Bill 151, 2016)

It is clear that a main driver of this bill is environmental protection. However, directly below the first aim of protecting the natural environment is an aim to “foster the continued growth and development of the circular economy”. This deliberate placement links economic opportunity to environmental and human health. By placing these aims together, the government is affirming its intention to grow the economy through environmental legislation.

The provincial government is also signaling their view that a healthy environment and a wealthy economy are not mutually exclusive. Further statements by the government in the “Strategy for a Waste Free Ontario: Building the Circular Economy” show that the government considers the two outcomes as developing in tandem with one another:

For Ontario to continue to grow, it is important that we move toward a circular economy. This model affords a viable opportunity to successfully advance environmental priorities, drive performance, innovation and competitiveness and stimulate economic growth and development. (Province of Ontario, 2017, p. 6)

By prioritizing innovation, the government is promoting another tenet of ecological modernization: that environmental issues can be overcome or solved by science and technology (Mol and Spaargaren, 2009).

Although the provincial government is taking an active role in bringing forward Bill 151, the wording indicates that the Province does not hold itself ultimately responsible for the treatment of waste. Instead, the government has assigned responsibility to other parties, notably “persons who are most responsible for the design of products and

packaging”. In most cases, these parties include manufacturers and importers of packaged foods. In the food sector, processors and retailers are presumably those held responsible for food packaging waste. However, note that waste is defined as the end life of products and packaging; there is no explicit mention of organic food waste in the bill. The government has signaled that it intends to develop an Organic Waste Framework to further articulate responsibility for these types of waste within the parameters of Bill 151. At the time of writing, this framework was still under development. Similarly, Bill 151 does not detail how the management of food waste will be enforced or incentivized, although there are some indications that the province plans to introduce a ban on landfilling organic waste.

We now turn to some of the main story-lines activated by the introduction of Bill 151, including the role of waste in an economy, the relationship between environment and economy and the role of incentives and penalties in enforcing food waste legislation in Ontario.

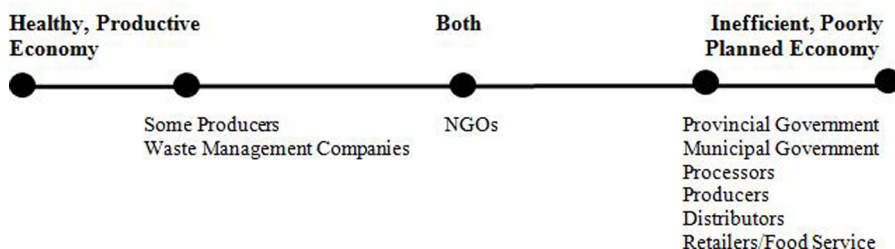
*Line of tension 1: waste as economic health or as inefficiency (Figure 1)*

As noted above, the provincial government’s stance on moving toward a circular economy indicates that they see waste as a sign of an inefficient, poorly planned economy. This perspective is shared by municipal representatives, who use the example of recyclable materials as an indicator of the inefficiencies of waste. Under previous waste legislation, the cost of the blue box recycling program was mandated to be shared 50/50 between municipalities and the producers/importers of recyclable materials. However, some municipalities are not able to recover the costs associated with collecting materials:

[. . .]for example a blue box, you get your material to the market, and the market fails? Try getting that material out of the blue box. Forget it! People would be up in arms. Once you get a material in a blue box, it’s impossible to take out. (Municipality 9)

These experiences of working to market and sell blue box materials have influenced municipal perspectives on the role of waste in an economy: it is a result of poor planning and can be a costly after-effect of economic activity. These attitudes extend to food waste as well. The costs of landfilling residential food wastes are borne by municipalities and running an organic collection and composting program is even more expensive than the blue box program for municipalities.

**Line of Tension 1:** Is waste the sign of a healthy, productive economy, or is waste a sign of an inefficient, poorly planned economy?



**Figure 1.**  
Line of tension 1:  
waste as healthy  
economy or  
inefficiency



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Those in the food value chain who sell or serve food for profit also see food waste as a sign of economic inefficiency:

Waste for us is expensive, all waste is expensive [...] if you're in the business to sell what you produce, you don't want to waste anything. (Research Organization 1)

Lost or wasted food negatively impacts the bottom line because it represents unsold product and also because of the costs that private industry pays to haul their wastes:

[...] you pay the waste management company by the ton to remove the waste. It's by weight. And guess what the heaviest waste stream is in the dumpster? It's loaded with water. It's food waste! So if we can divert that? Guess what, your bill's going down." (Processor 3)

Even when uneaten food is recovered for alternative uses, this "downcycling" may still be interpreted as an inefficiency and a loss:

I still think it's a damn waste, because even if it's a crop of carrots or watermelon or whatever [...] if it goes a little bad before it gets to market, they'll feed it to cattle or put it back into a bio-digester, or compost or something. You're like, yeah, nutrients are getting re-used [...] but it's still a damn shame, because there's a lot of time and energy that someone has put into something that in the end only becomes soil again? [...] If I worked so hard [...] seeing it go to waste in someone's fridge or seeing it go to waste in the field, it kills you. Why did I put so much effort into that, you know? (Producer 3)

Although there is value in using uneaten food to feed animals or for nutrient recovery through composting, those who produce and sell food see the ultimate value in food in its consumption by humans. Conversely, one producer expressed the belief that waste is a side-effect of a productive economy:

The situation where we end up with a lot of waste is usually a period of time where no one really cares about the waste because we're producing way too much anyway. (Producer 1)

In this scenario, the producer is equating excess with productivity, and an excess of productivity is a sign of a healthy economy.

Food recovery NGOs expressed ambivalence about the role of waste in an economy. Many saw food wastage as emblematic of the inefficient distribution of food in society, which leads to food insecurity among Canadians. However, these NGOs are also reliant on the overproduction of food businesses as a source for their donations, and so many naturalized these types of inefficiencies:

We're not going to ever run out of stores having excess, I just don't think we're ever going to hit that [...] it's just in how we manage it that we're going to need to worry about. (NGO 3)

One of the intrinsic tensions in using overproduced food as a means of feeding hungry people is that such redistribution does not address the root causes of poverty and food insecurity (Caraher and Furey, 2017). Nonetheless, food recovery NGOs play an important role in mediating hunger on a short-term basis.

Some NGOs capitalize on the popularity that food waste is currently enjoying:

Food waste seems to be on a tipping point right now, there's a lot more opportunity than there would have been 5 or 6 years ago, a lot more interest [...] you see it in the media now, you didn't see it in the media before. (NGO 5)

Drawing attention to the juxtaposition of food waste and food insecurity is therefore an awareness-raising opportunity for some non-profits, and the widespread recognition of food waste as an environmental problem encourages donors to see value in its prevention, potentially driving financial donations to food recovery NGOs:

The other thing is price, too [...] that is true, that's a huge factor, nobody was willing to pay for food recovery business because the price of waste disposal is so cheap. (NGO 6)

This comment suggests that shifting social values around waste and waste management can impact its financial valuation. As food waste becomes a high-profile issue in Ontario, paying for food recovery will likely become a higher priority.

Finally, waste management companies' entire industry is predicated on the existence of a waste stream. Perhaps more than any other sector, waste is seen as a valuable resource from which profit is derived. Thus, a tension arises: contrary to most other sectors, waste management companies see waste as a sign of a healthy and productive economy, because waste keeps them in business.

Overall, most of those sectors whose primary purpose is to derive profit from food or to redistribute excess food view waste as the sign of an inefficient or poorly planned economy, although some characterized such waste as inevitable. However, those sectors that derive value from waste, such as waste management companies, rely on the continued presence of waste in the economy. Furthermore, the point at which the "waste" occurs is very important. If unexpected excess product can be sold for a profit, it is not a waste. If it fails to sell, then it becomes a waste.

*Line of tension 2: environmental protection/economic growth (Figure 2)*

While ecological modernization posits that one can grow the economy and preserve the environment at the same time, the traditional inclination is to see economy and environment as opposing interests. In defining Bill 151 as a project of ecological modernization, the provincial government has staked a claim that both environment and economy should be prioritized in legislation.

This view is shared by municipal representatives and eco-conscious food businesses. While some NGOs prioritized the environment over economic gain, others saw the potential for synergies. Municipalities often espouse environmental values, but also must remain cost-conscious in terms of the waste services they deliver. They see legislation that mandates food waste reduction as one way to lower their waste treatment fees. There is also optimism among municipalities that food waste legislation will provide institutional support – and perhaps end-market development – for municipal composting programs. Such support would make organics collection more economically viable, in addition to environmentally valuable.

Eco-conscious food businesses also see synergies between environment and economy:

**Line of Tension 2: What should be more heavily prioritized in legislation, the environment or the economy?**



\*Neither: Producers

**Figure 2.**  
Line of tension 2:  
environment vs  
economy

It [waste reduction] reduces costs, it's environmentally friendly, it reduces the overall carbon footprint. (Processor 1)

The most interesting thing was more and more [of our member processors] are applying a climate change lens to all of their decisions, and that's where we have to go, right? This isn't a fleeting thing, this isn't just a trend, this is for all of us. Then you've got the government coming in [...] working on climate change legislation here [...] (Processor 7).

Rather than being left behind by legislation, several food businesses are applying a climate change lens to their decisions, anticipating that this is a long-term policy-direction for the province. One respondent noted that sustainability has become a shared value for many in food businesses:

We see waste [and] sustainability as a pre-competitive area in which we can work together, especially energy and waste, because there's no such thing as collusion in trying to divert trash. (Retailer 1)

In reviewing corporate social responsibility documents for other retailers, a similar commitment to preserving the environment emerged.

Under the previous blue box system, product stewards paid for the program, but did not have the ability to provide input on their design. Because Bill 151 shifts full responsibility for the costs of managing recyclable wastes (and perhaps organic wastes) to brand holders and importers, some industry respondents identified the introduction of Bill 151 as an opportunity to redesign waste recovery systems in the province and to perhaps introduce economic efficiencies, thus reducing their costs. Indeed, many maintain that if they are paying for the system, it should be their prerogative to decide how recycling takes place. This perspective is another example of respondents' seeing potential economic efficiencies through environmental actions.

The goal of waste management companies includes extracting as much value from waste as possible, which can involve material recovery and thus a reduced environmental footprint. It is in this way that waste management representatives expressed an interest in both the economy and the environment:

I think that people understand that diversifying their businesses and looking to grow on the diversion side and create more of a stable foundation, so the push has been around that concept of the circular economy. (Waste Management Company 7)

This type of thinking positions waste management companies as ecological modernists, using technological innovation to create markets and preserve the environment.

Distributors and some food service respondents did not disparage environmental goals but did express concern for maintaining their economic competitiveness. In both of these industries, the environmental impacts of food are externalities that cannot be easily mitigated. In the case of distributors, they are often importing food from great distances, and must guard against critiques that their transportation activities contribute to greenhouse gas emissions. The food waste that is generated by food service providers is an artefact of the eating habits of their patrons, and many feel unable to mitigate these impacts (unlike processors who can alter their manufacturing systems to generate less food waste).

In sum, many respondents shared the view of the provincial government that the environment and the economy can be simultaneously prioritized. Reduction of waste was seen as a cost savings exercise by many, with the added benefit of environmental preservation.

*Line of tension 3: financial incentives/bans or fines (Figure 3)*

The provincial government has stated through Bill 151 and its assorted strategy documents that it is in favor of a mix of both incentives and penalties, but as of yet, no regulations have been put in place. The provincial government has yet to definitively signal where it falls on the question of how to best motivate waste reduction.

Government intervention in the environment has historically relied on command and control mechanisms for achieving certain environmental targets. The Province of Ontario intends to break from this tradition with Bill 151. The legislation draws on the concept of extended producer responsibility to allow for creative ways to repurpose waste, or to design products that are easier to reuse and recycle. Because it is difficult to “recycle” food waste as packaging might be recycled, there are a variety of legislative tools that governments use to divert organic materials from landfill. Ontario already supports legislation called the Donation of Food Act, which waives the liability of donors who redistribute product to social service agencies. Ontario farmers who donate produce receive a tax credit of 25 per cent of the fair market value of the food (Farmer Donation Act, part of the [Local Food Act, 2013](#)), but this tax credit is not available to other sectors of the food value chain.

When it comes to non-organic wastes, a tension exists between municipalities and industry, as municipalities often feel unfairly compensated for their collection and maintenance of the curbside recycling program. This distrust extends to food wastes as well. While many respondents across sectors acknowledge that a large percentage of food wastage occurs in the home ([Gooch and Felfel, 2014](#)), municipal respondents noted that this type of food waste does not occur in isolation, but that it originates in how food is marketed to consumers in the store:

If you really want to pinpoint where overconsumption starts, it's usually with the retailers, with the business that's creating all the food [...] (Municipality 2).

It follows that municipalities believe that food businesses should not be incentivized to reduce waste, but rather penalized for producing it and for not anticipating food waste solutions when designing a product. Like the province, municipalities are strongly in favor of continued extended producer responsibility and wish to see concerns for the end-of-life of food products built into the design stage.

When asked specifically about the incentive approach of issuing tax receipts to food businesses for donating food (as is practiced in the USA under the Bill Emerson Act, e.g.), a municipal respondent stated:

To actually give companies an incentive to waste more by giving them a tax break is ridiculous! Ridiculous. They should be penalized, not incentivized. I think that whole incentive piece of it is wrong. (Municipality 1)

**Line of Tension 3:** Is it more effective to incentivize producers/retailers/distributors to reduce waste (through tax rebates for donation), or penalize them (through fines, bans, levies, etc.)?



\*Neither: Food Service  
\*Not Specified: Provincial Government, Distributors

**Figure 3.**  
Line of tension 3:  
incentives vs  
penalties

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Municipalities also noted that a landfill ban on food waste would only be effective if the legislation enabled alternative treatments for organic waste. This sentiment was summarized as “no ban without a plan”. Such a plan would likely involve incentives and investment in market development to be effective. Municipalities thus saw a role for both strategic incentives and penalties.

Conversely, food businesses are strongly opposed to excessive regulation and punitive measures, seeing such approaches as stifling innovation:

Adding regulations is just going to add another added cost and burden to an already very strenuous, competitive environment [...] We would like to see that [they] support more voluntary and incentive based programs, to motivate food waste reduction action [...] financial incentives [...] to do analysis, to do the measuring, to do the quantifying, to do the root causes analysis and come up with solutions (Processor 4).

Many processors believed that government intervention should be deployed as a way to shift the market and set benchmarks for reduction of waste, without mandating or enforcing the “how” of waste reduction.

Some food businesses expressed concern that regulation and punitive fines could increase their operational costs:

One of the things that is obviously important to us, is [...] how does this impede our ability to operate? Does this make it economically challenging for the operators? (Food Service 3)

However, others saw the potential for enforced regulation to even the playing field:

Some of the barriers that get met when [...] you're just the first guy doing it, or one of the few doing it, is that there's all those trials and bumps in the road and things you have to figure out and systems you have to put in place, versus when it's pushed down from the top, it opens up a lot more possibility of what could be created from it. (Food Service 2)

From this perspective, enforcement ensures that the economic risk of transitioning to more sustainable business practices is borne by all food business players and not just innovators.

Similarly, the waste management sector expressed support for some punitive measures that spur innovation and “shift the market” around waste:

Enforcing any type of ban on food waste would force or promote innovations for sustainability. (Waste Management Company 2)

Government intervention in this case has the potential to force or promote innovation by setting benchmarks on the types of materials that can be sent to landfills. However, some respondents in this sector were also concerned about overly prescriptive regulation:

We have always said, the government needs to do more to say, 'Here's the end result I want, I'm just going to require companies to meet this end result, I don't care about how they get there.' (Waste Management Company 7)

We thus saw an openness to differing strategies in the waste management sector.

While most NGO respondents considered the food business sector as primarily responsible for the generation of waste, they also considered the government to be responsible for creating conditions that incentivize new business solutions for food waste. They were in favor of stronger government enforcement as a way to reduce waste, believing that capitalist markets are not capable of self-regulation.

Overall, many in the food business were opposed to regulations or enforcement mechanisms that would compromise their bottom line. They were therefore opposed to “sticks” such as bans or fines, and preferred “carrots” like tax incentives to drive reduction

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of food waste. In contrast, NGOs and some municipalities were more in favor of bans and fines, as they did not want to be the ultimate “dumping ground” for food waste materials (through the donation of low-quality excess food to NGOs, or the management of residential food waste through the municipal system).

Implicit in the discussion of fines or bans is the idea of who is responsible for the creation of waste. Those in the business of selling food felt that they were not responsible for creating the majority of food wastes, and so financial levers such as fines and bans are inappropriate and unfair. Bans were suggested as an appropriate option by some in the retail sector, but only if they came with proper education (presumably to the public/consumers, who would also be included in an organics ban). Thus, perceptions of how food waste should be regulated are related to beliefs about who is responsible for the creation of that waste.

### Discussion and conclusions

Each of the above lines of tensions has implications for the implementation of Bill 151. Considering Line of tension 1, most sectors along the food value chain agreed that waste is inefficient, causing them a loss in revenue. However, some waste management companies, producers, and processors disagreed with this characterization of waste. For processors and producers, time is of the essence: if there is still time to recover profit from an unsold food product, then it is not yet a waste nor an inefficiency. In some ways, these are semantic differences in the definition of waste. Shifting the rhetoric of waste management in Ontario toward a circular economy model wherein waste products are viewed as potential resources may create a story-line that enfranchises the perspectives of most stakeholders regarding the role of waste in an economy. Many respondents actively avoided using the word “waste” or had different connotations to the word. While the provincial government may have a specific idea in mind when using the terms “waste free” and “circular economy,” different actors in the food value chain had diverse ideas about what those terms meant. Waste is often black-boxed and not examined by society and is easier to keep it out of sight and out of mind (Watson and Meah, 2012). The provincial government may be able to build bridges and forge alliances with ecological modernization story-lines that re-frame waste as a resource, a potential input and a conduit for innovation and cross-sectoral participation. Such re-framings could help to persuade actors who are unconvinced by other story-lines associated with ecological modernization, including those who are concerned about potential trade-offs between economic performance and environmental protection.

The provincial government has asserted that it will promote both environmental preservation and a healthy economy in tandem, placing it in the middle of Line of tension 2. We found that most stakeholders agreed with this perspective, while some in the food business indicated that their economic competitiveness was a top priority. Such economic considerations should not be overlooked, as there are some instances where sustainability initiatives may inhibit profit-making in the food sector. The provincial government would do well to ensure that such trade-offs are considered carefully, and mitigated by supporting market development for disposal alternatives, where possible. Despite the potential economic impacts of circular economy legislation, critics have noted that ecological modernization does little to reorganize capitalist systems (Mol and Jänicke, 2010; York *et al.*, 2010). While it is therefore unlikely that Bill 151 will transform Ontario's extractive consumer economy, it may mitigate the downstream environmental effects of such an economy, while also serving as a starting point for better aligning the values of government and diverse stakeholders (including for-profit and non-profit actors in the food system). This shift toward a governance model that enfranchises the interests and perspectives of diverse

stakeholders is reflective of the strengths of ecological modernization story-lines that emphasize synergies between economic, environmental, and social concerns.

While it is yet to be seen where the government falls along Line of tension 3 regarding the employment of incentives or penalties to manage food waste in the province, it is anticipated that they will employ both methods. We learned that food businesses generally preferred incentive systems and less prescriptive regulations, although some in these sectors acknowledged the value of penalties and regulation in driving innovation and evening competitive landscapes. A law was recently passed in France mandating that all unsold food from grocery stores over a certain size must be donated to NGOs. This law imposes fines on those who do not comply, whereas an analogous law recently passed in Italy instead loosens regulations and encourages donations from food businesses. We have yet to see the impacts of either approach to legislation, although it is anticipated that both will lead to increased pressure on food recovery NGOs, who provide the logistics and person-power to process these donations, and also take on the costs of final disposition for any inedible donated food. Both case studies emphasize the need for the provincial government to ensure that there is “no ban without a plan”, and that they consider and mitigate the downstream effects of incentives and penalties for food businesses on the non-profit and municipal sectors who manage post-consumer excess food/waste.

By promoting the expansion of Ontario’s product stewardship model for extended producer responsibility, the government is attempting to highlight the role of producers, processors, and importers in the generation and treatment of waste. Subsequent regulations emerging from Bill 151 would therefore benefit from a more definitive articulation of who is responsible for the treatment of waste and how they are to be held responsible. Aspirations of a circular economy also need to be backed up by data about how much waste is occurring and where it occurs along the food value chain. Data collection, analysis and dissemination will therefore be important aspects of the organic strategy when it is released. Our analysis indicates that while there are diverse and perhaps irreconcilable differences in the perspectives of stakeholders across the food system, there is also room for shared rhetoric, inclusive story-lines and the development of collaborative governance structures in the management of food waste in Ontario.

## References

- Alexander, C., Gregson, N. and Gille, Z. (2013), “Food waste”, in Murcott, A., Bellasco, W. and Jackson, P. (Eds), *The Handbook of Food Research*, Bloomsbury, London, pp. 471-484.
- Association of Municipalities of Ontario (2017), Personal communication with Dave Gordon, Senior Advisor, Waste Diversion.
- Bilitewski, B. (2012), “The circular economy and its risks”, *Waste Management*, Vol. 32 No. 1, pp. 1-2.
- Buttel, F.H. (2000), “Ecological modernization as social theory”, *Geoforum*, Vol. 31 No. 1, pp. 57-65.
- Caraher, M. and Furey, S. (2017), “Is it appropriate to use surplus food to feed people in hunger? Short-term Band-Aid to more deep rooted problems of poverty”, *Food Research Collaboration Policy Brief*, 26 January.
- de Coverly, E., McDonagh, P., O’Malley, L. and Patterson, M. (2008), “Hidden Mountain: the social avoidance of waste”, *Macromarketing*, Vol. 28 No. 3, pp. 289-303.
- de Man, R. and Friege, H. (2016), “Circular economy: European policy on shaky ground”, *Waste Management & Research*, Vol. 34 No. 2, pp. 93-95.
- Environmental Protection Act (1990), “Province of Ontario”, available at: [www.ontario.ca/laws/statute/90e19](http://www.ontario.ca/laws/statute/90e19)

- 
- European Commission (2015), "Circular economy package: questions & answers", available at: [http://europa.eu/rapid/press-release\\_MEMO-15-6204\\_en.htm](http://europa.eu/rapid/press-release_MEMO-15-6204_en.htm)
- Evans, D. (2012), "Beyond the throwaway society: ordinary domestic practice and a sociological approach to household food waste", *Sociology*, Vol. 46 No. 1, pp. 41-56.
- Evans, D., Campbell, H. and Murcott, A. (2013), *Waste Matters: New Perspectives of Food and Society (Sociological Review Monograph; 60)*, Wiley-Blackwell, Malden, MA.
- Fisher, D.R., Fritsch, O. and Andersen, M.S. (2010), "Transformations in environmental governance and participation", in Mol, A.P.J., Sonnenfeld, D.A. and Spaargaren, G. (Eds), *The Ecological Modernisation Reader: Environmental Reform in Theory and Practice*, Routledge, New York, NY.
- Food and Agriculture Organization (FAO) (2013), "Food waste harms climate, water, land and biodiversity", available at: [www.unep.org/newscentre/default.aspx?DocumentID=2726&ArticleID=9611](http://www.unep.org/newscentre/default.aspx?DocumentID=2726&ArticleID=9611)
- Gille, Z. (2012), "From risk to waste: global food waste regimes", *The Sociological Review*, Vol. 60 No. 2, pp. 27-46.
- Göbel, C., Langen, N., Blumenthal, A., Teitscheid, P. and Ritter, G. (2015), "Cutting food waste through cooperation along the food supply chain", *Sustainability*, Vol. 7 No. 12, pp. 1429-1445.
- Gooch, M.V. and Felfel, A. (2014). "\$27 Billion revisited: the cost of Canada's annual food waste", available at: <http://vcm-international.com/wp-content/uploads/2014/12/Food-Waste-in-Canada-27-Billion-Revisited-Dec-10-2014.pdf>
- Gustavsson, J., Cederberg, C. and Sonesson, U. (2011), *Global Food Losses and Food Waste-FAO Report, Food and Agriculture Organization (FAO) of the United Nations*, available at: [www.fao.org/docrep/014/mb060e/mb060e00.pdf](http://www.fao.org/docrep/014/mb060e/mb060e00.pdf)
- Hajer, M. (1995), *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*, Oxford University Press, Oxford.
- Hawkins, G. and Muecke, S. (2003), *Culture and Waste: The Creation and Destruction of Value*, Rowman & Littlefield, Lanham, MD.
- Hickle, G.T. (2013), "Comparative analysis of extended producer responsibility policy in the United States and Canada", *Journal of Industrial Ecology*, Vol. 17 No. 2, pp. 249-261.
- Jänicke, M. and Jörgens, H. (2004), "New approaches to environmental governance", in Jänicke, M. and Jacob, K. (Eds), *Environmental Governance in Global Perspective. New Approaches to Ecological Modernisation*, Freie Universität Berlin Press, Berlin, pp. 167-209.
- Local Food Act (2013), "Province of Ontario", available at: [www.ontla.on.ca/web/bills/bills\\_detail.do?locale=en&BillID=2754](http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=2754)
- Lundqvist, J., Fraiture, C.D. and Molden, D. (2008), "Saving water: from field to fork curbing losses and wastage in the food chain", SIWI Policy Brief. SIWI, available at: [www.siwi.org/publications/saving-water-from-field-to-fork-curbing-losses-and-wastage-in-the-food-chain/](http://www.siwi.org/publications/saving-water-from-field-to-fork-curbing-losses-and-wastage-in-the-food-chain/)
- McKerlie, K., Knight, N. and Thorpe, B. (2006), "Advancing extended producer responsibility in Canada", *Journal of Cleaner Production*, Vol. 14 Nos 6/7, pp. 616-628.
- Mol, A. (2010), "Ecological modernization as a social theory of environmental reform", in Redclift, M. and Woodgate, G. (Eds), *The International Handbook of Environmental Sociology*, 2nd ed., Edward Elgar, Cheltenham, pp. 63-76.
- Mol, A. and Jänicke, M. (2010), "The origins and theoretical foundations of ecological modernisation theory", in Mol, A., Sonnenfeld, D. and Spaargaren, G. (Eds), *The Ecological Modernisation Reader: Environmental Reform in Theory and Practice*, Routledge, New York, NY, pp. 17-27.
- Mol, A. and Spaargaren, G. (2009), "Ecological modernization and industrial transformation", in Castree, N. (Ed.), *A Companion to Environmental Geography*, Wiley-Blackwell, Chichester.



- 
- Morone, P. and Navia, R. (2016), "New consumption and production models for a circular economy", *Waste Management & Research*, Vol. 34 No. 6, pp. 489-490.
- Mutch, C. (2015), "Adapting bourdieu's field theory to explain decision-making process in educational policy", in Anfara, V. and Mertz, N. (Eds), *Theoretical Frameworks in Qualitative Research*, 2nd ed., Sage Publications, Thousand Oaks, CA.
- Ontario Regulation 101/94: Recycling and Composting of Municipal Waste (2011), Ontario Regulation 101/94: Recycling and Composting of Municipal Waste under Environmental Protection Act 1990, available at: [www.ontario.ca/laws/regulation/940101](http://www.ontario.ca/laws/regulation/940101)
- Papargyropoulou, E., Lozano, R., Steinberger, J.K., Wright, N. and Bin Ujang, Z. (2014), "The food waste hierarchy as a framework for the management of food surplus and food waste", *Journal of Cleaner Production*, Vol. 76, pp. 106-115.
- Parfitt, J., Barthel, M. and Macnaughton, S. (2010), "Food waste within food supply chains: quantification and potential for change to 2050", *Philosophical Transactions of the Royal Society B: Biological Sciences*, Vol. 365 No. 1554, pp. 3065-3081.
- Pearce, D. and Turner, R.K. (1990), *Economics of Natural Resources and the Environment*, Harvester Wheatsheaf, London.
- Province of Ontario (2017), "Strategy for a waste free Ontario: building a circular economy", available at: [https://files.ontario.ca/finalstrategywastefreeont\\_eng\\_aodal\\_final-s.pdf](https://files.ontario.ca/finalstrategywastefreeont_eng_aodal_final-s.pdf)
- Van Bommel, A. (2016), "Wasting food is rubbish: barriers and opportunities for food waste diversion in Guelph, ON, MA thesis", University of Guelph, Guelph, ON.
- Velis, C. (2015), "Circular economy and global secondary material supply chains", *Waste Management & Research*, Vol. 33 No. 5, pp. 389-391.
- Watson, M. and Meah, A. (2012), "Food, waste and safety: negotiating conflicting social anxieties into the practices of domestic provisioning", *Sociological Review*, Vol. 60 No. 2, pp. 102-120.
- Winson, A. (1995), *The Intimate Commodity: Food and the Development of the Agro-Industrial Complex in Canada*, Garamond Press, Aurora, ON.
- York, R., Rosa, E. and Dietz, T. (2010), "Ecological modernization theory: theoretical and empirical challenges", in Redclift, M. and Woodgate, G. (Eds), *The International Handbook of Environmental Sociology*, 2nd ed., Edward Elgar, Northampton, MA.

### Further reading

- Mol, A., Sonnenfeld, D. and Spaargaren, G. (2010), *The Ecological Modernisation Reader: Environmental Reform in Theory and Practice*, Routledge, New York, NY.
- Waste Free Ontario Act (2016), "Province of Ontario", available at: [www.ontla.on.ca/web/bills/bills\\_detail.do?locale=en&BillID=3598](http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=3598)

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